ServerView

FUJITSU

ServerView Resource Orchestrator Cloud Edition V3.1.0

User's Guide
for Tenant Users

Windows/Linux
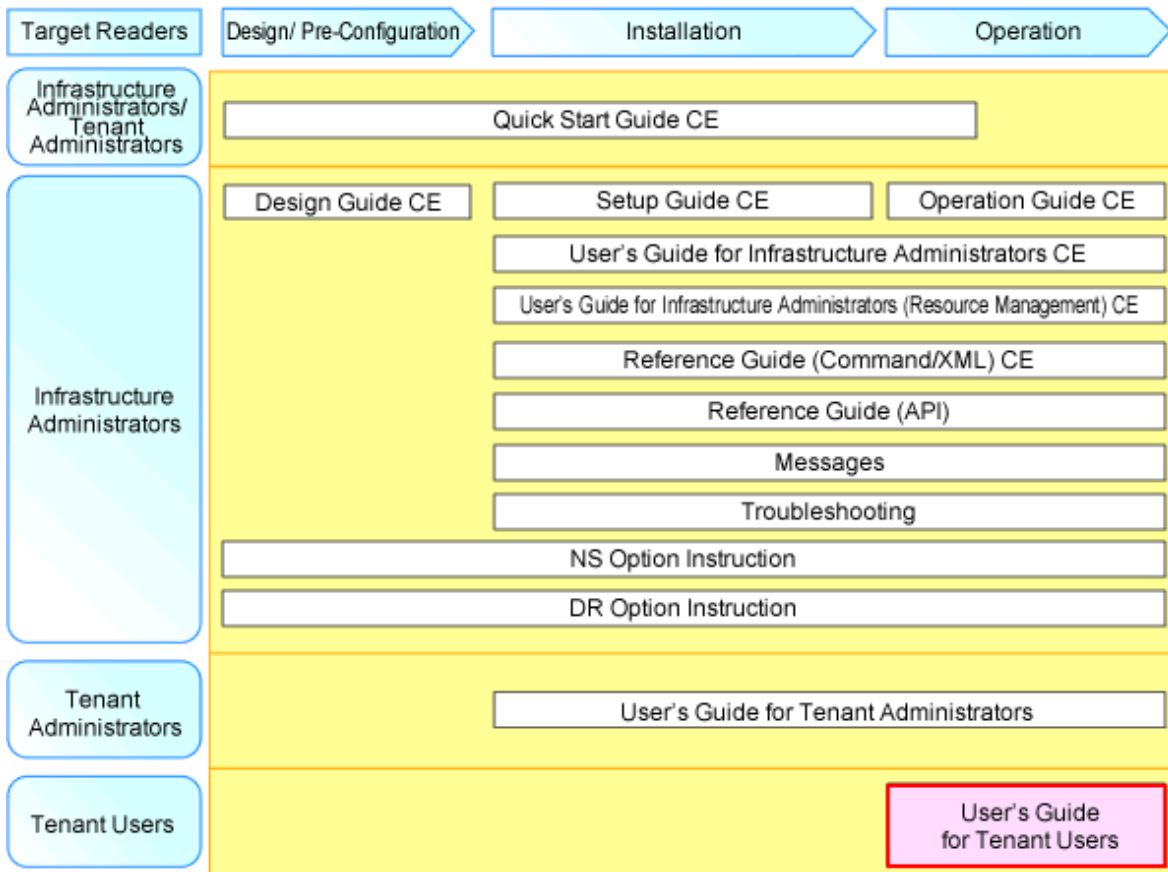
Preface

Resource Orchestrator Documentation Road Map

The documentation road map for Resource Orchestrator is as shown below.

Resource Orchestrator Documentation Road Map

Point

Refer to the user role manuals displayed in the table below for roles that are not in the diagram.

Roles that are not in the diagram	Roles that are in the diagram
Infrastructure operator Infrastructure monitor	Infrastructure administrator
Tenant operator Tenant monitor	Tenant administrator
(Dual-Role) Administrator (Dual-Role) Operator (Dual-Role) Monitor	Infrastructure administrator and Tenant administrator

For information about the documents for Resource Orchestrator, please refer to "Chapter 1 Documentation Road Map" in the "Design Guide CE".

Purpose

This manual provides an outline of ServerView Resource Orchestrator (hereinafter Resource Orchestrator) and the operations and settings required for setup.

Target Readers

This document is intended for Tenant user who use the resources of a tenant that they own.

Organization

This manual is composed as follows:

Chapter 1 Overview

    Explains an overview of the ROR Console

Chapter 2 Login and Logout

    Explains how to log in and out of the ROR console.

Chapter 3 Home

    Explains the ROR Console Home window display.

Chapter 4 System Conditions

    Explains how to monitor system conditions

Chapter 5 L-Platform

    Explains how to use the L-Platform

Chapter 6 Request

    Explains how to operate the application list

Chapter 7 Account

    Explains how to perform account operations

Glossary

    Explains the terms used in this manual. Please refer to it when necessary.

Notational Conventions

The notation in this manual conforms to the following conventions.

- When using Resource Orchestrator and the functions necessary differ due to the necessary basic software (OS), it is indicated as follows:

[Windows Manager]	Sections related to Windows manager
[Linux Manager]	Sections related to Linux manager
[Windows]	Sections related to Windows (When not using Hyper-V)
[Linux]	Sections related to Linux
[Solaris]	Sections related to Solaris or Solaris Containers
[VMware]	Sections related to VMware
[Hyper-V]	Sections related to Hyper-V
[Xen]	Sections related to RHEL5-Xen
[KVM]	Sections related to RHEL-KVM
[Solaris Containers]	Sections related to Solaris containers
[Oracle VM]	Sections related to Oracle VM

[Physical Servers]	Sections related to physical servers
[VM host]	Sections related to Windows Server 2008 with VMware or Hyper-V enabled

- Unless specified otherwise, the blade servers mentioned in this manual refer to PRIMERGY BX servers.

- Oracle Solaris may also be indicated as Solaris, Solaris Operating System, or Solaris OS.

- References and character strings or values requiring emphasis are indicated using double quotes (").

- Window names, dialog names, menu names, and tab names are shown enclosed by brackets ([ ]).

- Button names are shown enclosed by angle brackets (< >) or square brackets ([ ]).

- The order of selecting menus is indicated using [ ]-[ ].

- Text to be entered by the user is indicated using bold text.

- Variables are indicated using italic text and underscores.

- The ellipses ("...") in menu names, indicating settings and operation window startup, are not shown.

- The ">" used in Windows is included in usage examples. When using Linux, read ">" as meaning "#".

- The URLs in this manual were correct when the manual was written.

Menus in the ROR console

Operations on the ROR console can be performed using either the menu bar or pop-up menus.
By convention, procedures described in this manual only refer to pop-up menus.

Regarding Installation Folder Paths

The installation folder path may be given as C:\Fujitsu\ROR in this manual.

Replace it as shown below.

When using Windows 64-bit (x64)

C:\Program Files (x86)\Resource Orchestrator

When using Windows 32-bit (x86)

C:\Program Files\Resource Orchestrator

Abbreviations

The following abbreviations are used in this manual:

Abbreviation	Products
Windows	Microsoft(R) Windows Server(R) 2008 Standard Microsoft(R) Windows Server(R) 2008 Enterprise Microsoft(R) Windows Server(R) 2008 R2 Standard Microsoft(R) Windows Server(R) 2008 R2 Enterprise Microsoft(R) Windows Server(R) 2008 R2 Datacenter Microsoft(R) Windows Server(R) 2003 R2, Standard Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise Edition Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition Windows(R) 7 Professional Windows(R) 7 Ultimate Windows Vista(R) Business Windows Vista(R) Enterprise

Abbreviation	Products
	Windows Vista(R) Ultimate Microsoft(R) Windows(R) XP Professional operating system
Windows Server 2008	Microsoft(R) Windows Server(R) 2008 Standard Microsoft(R) Windows Server(R) 2008 Enterprise Microsoft(R) Windows Server(R) 2008 R2 Standard Microsoft(R) Windows Server(R) 2008 R2 Enterprise Microsoft(R) Windows Server(R) 2008 R2 Datacenter
Windows 2008 x86 Edition	Microsoft(R) Windows Server(R) 2008 Standard (x86) Microsoft(R) Windows Server(R) 2008 Enterprise (x86)
Windows 2008 x64 Edition	Microsoft(R) Windows Server(R) 2008 Standard (x64) Microsoft(R) Windows Server(R) 2008 Enterprise (x64)
Windows Server 2003	Microsoft(R) Windows Server(R) 2003 R2, Standard Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise Edition Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition
Windows 2003 x64 Edition	Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition
Windows 7	Windows(R) 7 Professional Windows(R) 7 Ultimate
Windows Vista	Windows Vista(R) Business Windows Vista(R) Enterprise Windows Vista(R) Ultimate
Windows XP	Microsoft(R) Windows(R) XP Professional operating system
Linux	Red Hat(R) Enterprise Linux(R) 5 (for x86) Red Hat(R) Enterprise Linux(R) 5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.1 (for x86) Red Hat(R) Enterprise Linux(R) 5.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.2 (for x86) Red Hat(R) Enterprise Linux(R) 5.2 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.3 (for x86) Red Hat(R) Enterprise Linux(R) 5.3 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.5 (for x86) Red Hat(R) Enterprise Linux(R) 5.5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.6 (for x86) Red Hat(R) Enterprise Linux(R) 5.6 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.7 (for x86) Red Hat(R) Enterprise Linux(R) 5.7 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.8 (for x86) Red Hat(R) Enterprise Linux(R) 5.8 (for Intel64) Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64) SUSE(R) Linux Enterprise Server 11 for x86 SUSE(R) Linux Enterprise Server 11 for EM64T
Red Hat Enterprise Linux	Red Hat(R) Enterprise Linux(R) 5 (for x86) Red Hat(R) Enterprise Linux(R) 5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.1 (for x86) Red Hat(R) Enterprise Linux(R) 5.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.2 (for x86) Red Hat(R) Enterprise Linux(R) 5.2 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.3 (for x86)

Abbreviation	Products
	Red Hat(R) Enterprise Linux(R) 5.3 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.5 (for x86) Red Hat(R) Enterprise Linux(R) 5.5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.6 (for x86) Red Hat(R) Enterprise Linux(R) 5.6 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.7 (for x86) Red Hat(R) Enterprise Linux(R) 5.7 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.8 (for x86) Red Hat(R) Enterprise Linux(R) 5.8 (for Intel64) Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64)
Red Hat Enterprise Linux 5	Red Hat(R) Enterprise Linux(R) 5 (for x86) Red Hat(R) Enterprise Linux(R) 5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.1 (for x86) Red Hat(R) Enterprise Linux(R) 5.1 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.2 (for x86) Red Hat(R) Enterprise Linux(R) 5.2 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.3 (for x86) Red Hat(R) Enterprise Linux(R) 5.3 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.5 (for x86) Red Hat(R) Enterprise Linux(R) 5.5 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.6 (for x86) Red Hat(R) Enterprise Linux(R) 5.6 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.7 (for x86) Red Hat(R) Enterprise Linux(R) 5.7 (for Intel64) Red Hat(R) Enterprise Linux(R) 5.8 (for x86) Red Hat(R) Enterprise Linux(R) 5.8 (for Intel64)
Red Hat Enterprise Linux 6	Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64)
RHEL5-Xen	Red Hat(R) Enterprise Linux(R) 5.4 (for x86) Linux Virtual Machine Function Red Hat(R) Enterprise Linux(R) 5.4 (for Intel64) Linux Virtual Machine Function
RHEL-KVM	Red Hat(R) Enterprise Linux(R) 6.2 (for x86) Virtual Machine Function Red Hat(R) Enterprise Linux(R) 6.2 (for Intel64) Virtual Machine Function
DOS	Microsoft(R) MS-DOS(R) operating system, DR DOS(R)
SUSE Linux Enterprise Server	SUSE(R) Linux Enterprise Server 11 for x86 SUSE(R) Linux Enterprise Server 11 for EM64T
Oracle VM	Oracle VM Server for x86
ESC	ETERNUS SF Storage Cruiser
GLS	PRIMECLUSTER GLS
Navisphere	EMC Navisphere Manager
Solutions Enabler	EMC Solutions Enabler
MSFC	Microsoft Failover Cluster
Solaris	Solaris(TM) 10 Operating System
SCVMM	System Center Virtual Machine Manager 2008 R2 System Center 2012 Virtual Machine Manager

Abbreviation	Products
VMware	VMware vSphere(R) 4 VMware vSphere(R) 4.1 VMware vSphere(R) 5
VMware ESX	VMware(R) ESX(R)
VMware ESX 4	VMware(R) ESX(R) 4
VMware ESXi	VMware(R) ESXi(TM)
VMware ESXi 5.0	VMware(R) ESXi(TM) 5.0
VMware Tools	VMware(R) Tools
VMware vSphere 4.0	VMware vSphere(R) 4.0
VMware vSphere 4.1	VMware vSphere(R) 4.1
VMware vSphere 5	VMware vSphere(R) 5
VMware vSphere Client	VMware vSphere(R) Client
VMware vCenter Server	VMware(R) vCenter(TM) Server
VMware vClient	VMware(R) vClient(TM)
VMware FT	VMware(R) Fault Tolerance
VMware DRS	VMware(R) Distributed Resource Scheduler
VMware DPM	VMware(R) Distributed Power Management
VMware vDS	VMware(R) vNetwork Distributed Switch
VMware Storage VMotion	VMware(R) Storage VMotion
VIOM	ServerView Virtual-IO Manager
BladeLogic	BMC BladeLogic Server Automation
ServerView Agent	ServerView SNMP Agents for MS Windows (32bit-64bit) ServerView Agents Linux ServerView Agents VMware for VMware ESX Server
RCVE	ServerView Resource Coordinator VE
ROR	ServerView Resource Orchestrator
ROR VE	ServerView Resource Orchestrator Virtual Edition
ROR CE	ServerView Resource Orchestrator Cloud Edition
Resource Coordinator	Systemwalker Resource Coordinator Systemwalker Resource Coordinator Virtual server Edition

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Contents

Chapter 1 Overview

This chapter explains the ROR Console.

1.1 Function List

This section explains the functions provided by ROR Console.

ROR Console has two parts: "operation windows for tenant administrators and tenant users" and "operation windows for infrastructure administrators".

Windows intended for Tenant Administrators and tenant users are provided for L-Platform and user information operations. These windows are configured by Tenant Administrators themselves, and have been provided to reduce the Infrastructure Administrator workload.

Operation windows and dashboard windows intended for Infrastructure Administrators are also provided for L-Platform and user information operations. These windows are provided to enable Infrastructure Administrators to display and operate all L-Platform and tenant information and to access important information quickly.

The ROR Console displays are customized for the user's role, to provide appropriate functions to each user. For example, tabs that the current user cannot operate are not displayed.

Figure 1.1 ROR Console
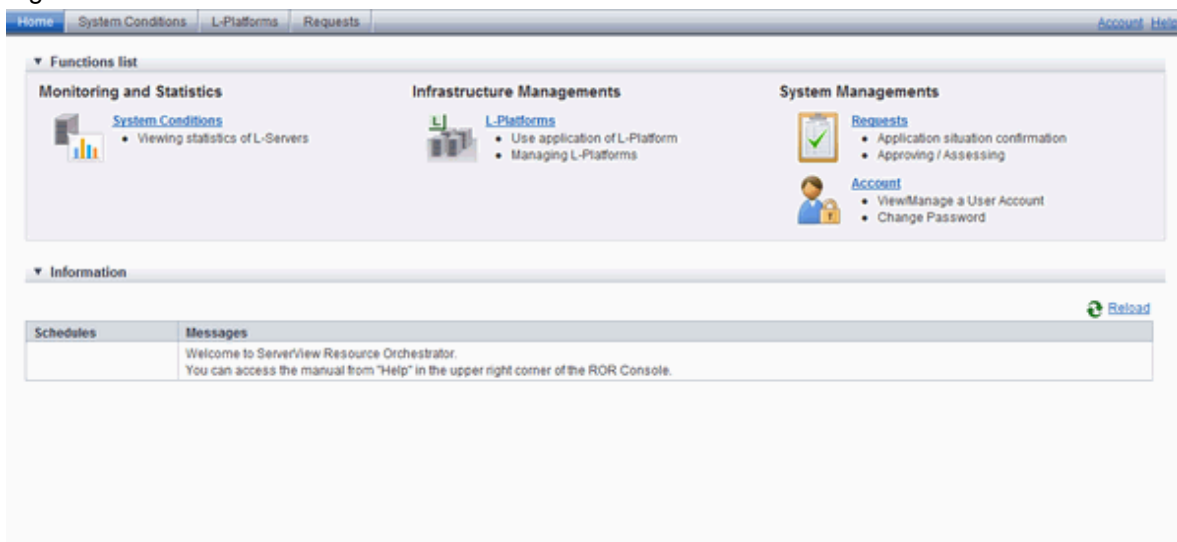
The table below shows the functions provided by the ROR Console.

These functions correspond to the tabs displayed at the top of the ROR Console.

Function	Overview	Tenant user
Home	The window displayed immediately after login to the ROR Console. A function list and notifications are displayed.	Yes
System Conditions	Displays L-Server performance information and configuration information	Yes
L-Platform	A window for managing L-Platform	Yes
Request	A window for assessing and approving L-Platform usage applications and other applications from tenant users	Yes

Function	Overview	Tenant user
Account	A window for changing a logged in user's information and password	Yes
Help	Displays this product's manual	Yes

Yes: Displayed (However, some functions may not be displayed according to the user's access rights.)

No: Not displayed

Refer to "Chapter 2 Home", and subsequent chapters for details on these functions.

However, refer to the "User's Guide for Infrastructure Administrators (Resource Management) CE" for information on the "Resource" function.

1.2 Flow of Operations

This section explains the flow of operations using the ROR Console, from construction to operation, maintenance, and monitoring.

Flow from Construction to Operation (Tenant User)
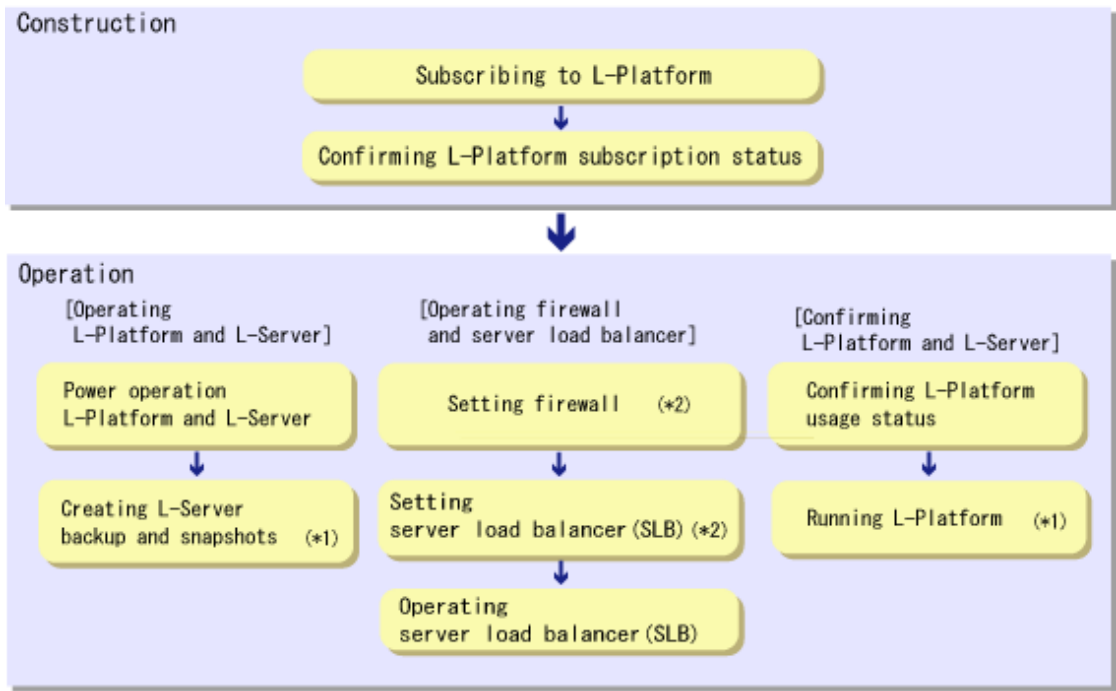
*1: This is not required. Perform if necessary.

*2: This is required if there is a firewall or server load balancer (SLB).

Construction

1. Subscribing to L-Platform
   Subscribe to L-Platform usage.
   Refer to "5.2 Subscribe to an L-Platform" for details.

2. Confirming L-Platform subscription status
   Check the L-Platform subscription status.
   Refer to "5.3 L-Platform Management" for details.

Operation

[Operating L-Platform and L-Server]

1. Power operation L-Platform and L-Server
   Perform L-Platform and L-Server power and other operations.
   Refer to "5.3.4 Start and Stop the Server" and "17.1 Power Operations" in the "User's Guide for Infrastructure Administrators (Resource Management) CE" for details.

2. Creating L-Server backup and snapshots
   If required, create an L-Server backup snapshot.
   Refer to "5.3.6 Take and Restore Snapshot" and "5.3.7 Physical Server Backup and Restore" for details.

[Operations on the Firewall/Server Load Balancer (SLB)]

1. Configuring the firewall
   Configure the firewall if necessary.
   Refer to "5.3.8 Setup Firewall" for details.

2. Configuring the server load balancer (SLB)
   Configure the server load balancer (SLB) if necessary.
   Refer to "5.3.9 Server Load Balancer (SLB) Settings" and "5.7 Server Load Balancer (SLB) Operation Procedure" for details.

3. Operating the server load balancer (SLB)
   Operate the server load balancer (SLB) if necessary.
   Refer to "5.3.10 Server Load Balancer (SLB) Operations" and "5.7 Server Load Balancer (SLB) Operation Procedure" for details.

[Confirming L-Platform and L-Server]

1. Confirming L-Platform usage status
   Check the status of L-Platform disk usage and other usage.
   Refer to "Chapter 4 System Conditions" for details.

2. Running L-Platform
   If required, add servers and disks for the L-Platform.
   Refer to "5.3.12 L-Platform Reconfiguration" for details.

1.3 First Steps Before Using the ROR Console

This section describes the first steps that need to be performed before using the ROR console.

1.3.1 New User Registration Tasks

P Point

The following two methods are available for registering a tenant user:

- The tenant users perform user registration themselves using a virtual account that the Tenant Administrator has registered from the **Register User** window

- The Tenant Administrator registers a tenant user from the **Register User** window

The tenant user registration method is set by the system administrator.

This section explains the registration tasks that should be performed by a user who has applied via the Tenant Administrator for new registration. A registration instruction email is sent to such a user.

Follow the registration procedures given in the instruction email.

Note that the registration application becomes invalid if the registration procedure is not performed within 24 hours of receiving the instruction email.

Follow the procedure below to register a new user:

1. Click the URL in the user registration mail.
   The **Register User** page will be displayed.

Item	Description
Temporary password	Specify the temporary password given in the tenant user registration mail.

2. Enter in the **Temporary password** field the temporary password given in the user registration mail. Review and agree with the license agreement, and click the **Advance to registration procedure** button.
   The input window for the user information will be displayed.
   The window below is the sample of using OpenDS for the directory service.

Item	Description
E-Mail address	User's E-mail address registered at a temporary account is displayed. It is not possible to change.
User ID	[When using OpenDS for the directory service] Specify a registration user ID. Specify a character string of 1 to 32 characters consisting of single-byte lower-case alphabetics and numerics, hyphens (-), underscores (_), and periods (.), and starting with lower case alphabet or numbers. This specification is mandatory. [When using Active Directory for the directory service] Specify a registration user ID. Specify a character string of 1 to 20 characters consisting of single-byte lower-case alphabetics and numerics, hyphens (-), underscores (_), and periods (.), and starting with lower case alphabet or numbers. Period cannot be used as the last character. This specification is mandatory.
Description	Specify a description for the user ID of the user, using up to 256 characters.

Password	Specify the user password. Specify between 8 and 64 characters, using single-byte alphanumerics and symbols. The specification is case sensitive. This field cannot be omitted.
Password (confirm)	Re-enter a user password for confirmation. This field cannot be omitted.
Personal information	
Name	Specify the first name and last name separately for the user. Use up to 15 characters for each name. Be sure to specify this item.
Company name or organization name	Specify the company name or organization name, using up to 30 characters.
Emergency contact details	
E-mail address	Specify an email address for receiving emergency contact notifications, using up to 64 characters.
E-mail address (confirm)	Re-enter an email address for receiving emergency contact notifications.
Telephone number	Specify an emergency contact phone number.

3. Enter the user information and click the **Next** button.
   The confirmation window of the registration information will be displayed.

4. Confirm the registration information, and click the **Register** button.
   The registration completion window will be displayed.

5. Click the **Close** button, processing is ended.

When user registration is completed, the registration content is sent to the registered user, the Tenant Administrator, and the tenant Email address.

1.3.2 Notification of User Password Setting

If the password is changed by tenant administrator, changed password will be sent to the user by E-mail with the title below. In this case, it is recommended to set a different password immediately.

```
Title of mail : [Important information]Setting of user password
```

Chapter 2 Login and Logout

This chapter describes how to open and close the ROR console.

Preparations

Before opening the ROR console, be sure to read through the following instructions and restrictions.

- When accessing the ROR console using Internet Explorer 8 or 9, be sure to enable the Compatibility View in Internet Explorer. Select [View]-[Encoding] in Internet Explorer, and check if [Auto-Select] is checked. If [Auto-Select] is not checked, select it.

- When downloading files using the ROR console, it is necessary to disable [Do not save encrypted pages to disk] in the Advanced Settings of the browser.

- The ROR console uses the Web browser's standard fonts and is designed to be viewed in a window of 1024 by 768 pixels or larger. When using a monitor with a higher resolution than this, it is recommended to enlarge the screen size. If the Web browser is resized by a significant amount, the display quality may deteriorate.

- The ROR console uses JavaScript, Active Script, Cookies, and IFRAMEs. These must be enabled in the Web browser settings before using the ROR console. Use SSL 3.0 and TLS 1.0.

- Specify either one of the following for the Web browser pop-up blocker:

    - Disable the pop-up blocker

    - Add the URL of the ROR Console to the **Address of web site to allow** setting.
      Check with the system administrator for the URL of the ROR Console.

- Surrogate pair characters cannot be used on the ROR Console.

- When opening the ROR console right after launching a Web browser, a warning window concerning the site's security certificate will be displayed.
  With Internet Explorer 8 or 9, the following message is displayed: "There is a problem with this web site's security certificate." This warns the user that Resource Orchestrator uses a self-signed certificate to encrypt its HTTPS (SSL) communication with the Web browser.
  Resource Orchestrator generates a unique, self-signed certificate for each admin server during manager installation.
  Within a firewall-protected intranet, a network where the risk of identity theft is low, or where all correspondents are trusted, there is no risk in using self-signature certificates for communications. Accept the warning to display the Resource Orchestrator login screen. With Internet Explorer 8 or 9, the login screen can be displayed by selecting the following option: "Continue to this web site (not recommended)."

- When connecting to the manager from Internet Explorer 8 or 9, the background of the address bar will become red and the words "Certificate Error" will be displayed on the right side of the address bar of the login screen, the ROR console, and BladeViewer. Furthermore, the Phishing Filter may show a warning on the status bar. These warnings are referring to the same self-signed certificate issue discussed in the previous bullet. It is safe to continue with the current browser settings.

- To stop displaying the security certificate warning screen and the certificate error icon, create a certificate associated with the IP address or hostname of the admin server and add it to the Web browser.
  A login window with a URL differing from the address bar's URL in which the IP address or host name (FQDN) may be displayed depending on the OS configuration. There are no problems with using the displayed window.
  Refer to "Appendix B HTTPS Communication" in the "Design Guide CE" for details.

Opening the ROR Console

This section explains how to access the ROR console.

Add the URL of the ROR console to the "Trusted sites" of the browser.
Start a Web browser from an admin client and specify the URL of the ROR console for connection.
If the port number was changed, specify the new port number.

When the ROR console is connected, the login window is displayed.
When Single Sign-On authentication has already been performed, the ROR console can be started without displaying the login window.

Refer to "Chapter 12 Installing and Defining Single Sign-On" in the "Design Guide CE" for details on Single Sign-On.

> URL: https://*Admin_server_FQDN*:23461/

On a Windows admin server, the ROR console can also be opened by selecting [start]-[All Programs]-[Resource Orchestrator]-[ROR console].

📒 Note

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- If the login screen is not displayed, confirm the following.

    - URL entered in address bar of the Web browser.

    - The proxy settings of the Web browser are correct.

    - The firewall settings on the admin server are correct.

- If already logged in from another Web browser window, login may be performed automatically (without displaying the login screen).

....

Login

In the login screen, enter the following items, and click <Login>.
The ROR console or BladeViewer is displayed after a successful login.

- User ID

- Password

However, opening multiple Web browsers from an already opened browser window (e.g. using the [File]-[New Window] menu from a Web browser) may disable logging in as a different user.

To log in as a different user, start up a new Web browser from the Windows start menu.

Logout

To log out, select "Logout" in the global header, and click <OK> in the confirmation dialog.

📒 Note

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- If the Web browser is closed without logging out first, user authentication may be skipped the next time Resource Orchestrator is accessed. In that case, users will be automatically logged in using the previously used session.
  It is advised that the users log out properly after using the ROR console or BladeViewer.

- If the ROR console or BladeViewer has been opened simultaneously in several Web browser windows, those login sessions may be terminated.

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Chapter 3 Home

This chapter explains the ROR Console Home window display.

When the ROR Console is started, the Home window is displayed. Refer to "Chapter 2 Login and Logout" for information on how to start the ROR Console.

The elements of the Home window are explained below.

- Functions list

  The functions list displays the items that can be operated using ROR Console tabs.

  Click the triangle icon next to the Function list to toggle Display/Hide.

- Information

  Information from the System Administrator and Infrastructure Administrator is displayed.

Chapter 4 System Conditions

This chapter explains how to monitor system conditions.

Note

The following message may be displayed during monitoring of system conditions:

> The authority error occurred. Closing the browser.

This error occurs if, for example, the same user ID is used to log in from a different client. In this case, log in again correctly.

4.1 System Conditions Display Range

The system conditions can display the following information for L-Platforms used by a tenant user:

- CPU utilization

- Disk R/W usage

- Disk R/W count

- Memory usage

- Network usage

Note

- The above information is not displayed for L-Servers incorporated in the system using the L-Server import function of this product.

- Disk R/W usage, disk R/W count, memory usage, and network usage are not displayed if the virtualization software is Hyper-V. However, if the dynamic memory setting is enabled, memory usage is displayed.

- Disk R/W usage is not displayed if the virtualization software is RHEL5-Xen.

- Disk R/W usage is not displayed if the virtualization software is RHEL-KVM.

- The performance graph (disk R/W usage, disk R/W count, and network usage) will not be displayed if the virtualization software used is Solaris Container.

- Network usage is not displayed if the physical L-Server is Linux/Solaris.

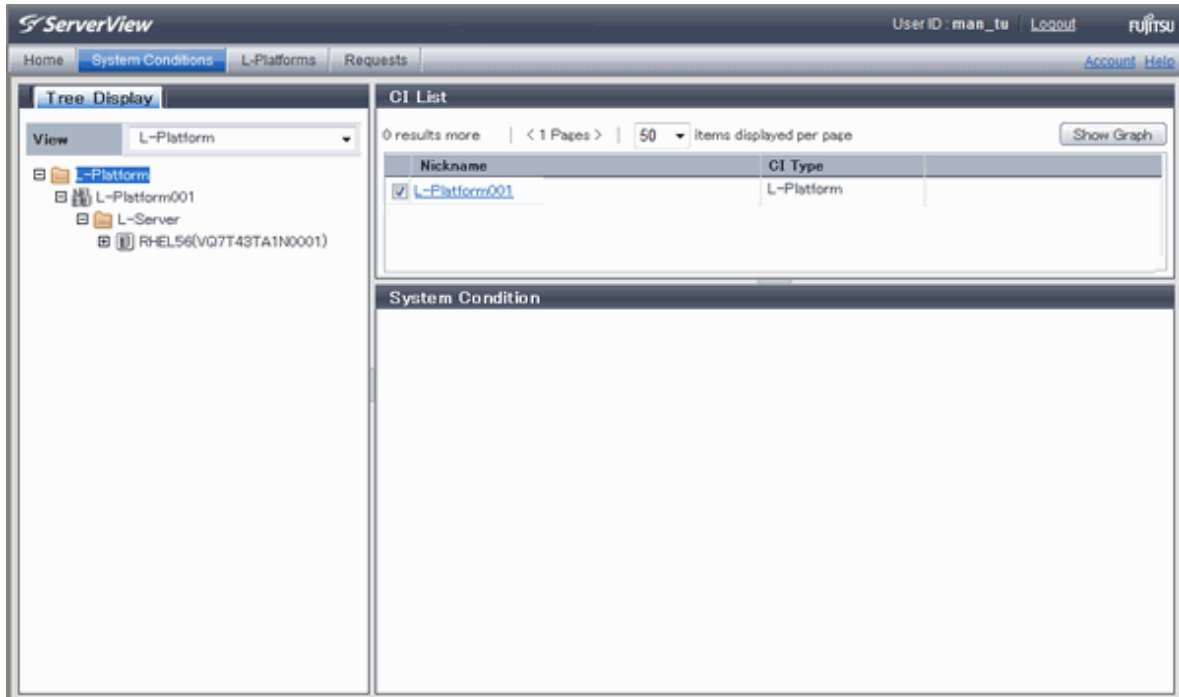## 4.2 L-Platform System Conditions Display

Perform the following steps to display the L-Platform system conditions:

1. From the ROR Console, select the **System Conditions** tab.

   The **System Conditions** window is displayed.

2. In the **System Conditions** window, select the **Tree Display** tab.

The configuration of L-Platforms used by tenant users is displayed in the tree at the left.

3. From the tree at the left, select the L-Platform for which to display the system conditions.

The selected L-Platform is displayed in the CI list on the right.
If the "L-Platform" folder is selected in the tree, all L-Platforms under the folder are displayed in the CI list.

If an L-Server is selected in the tree, information about the selected server is displayed in the CI list.

The L-Platforms and L-Servers under each folder in the tree are displayed in descending order based on their update date and time.

4. Select an L-Platform in the CI list, and then click the **Show Graph** button.

The system conditions is displayed in the lower part of the CI list. Refer to "4.2.1 System Conditions Display" for details on the displayed system conditions.

The table below explains the displayed items.

Item	Explanation
Nickname	Displays the display name of the configuration item. If the CI list Nickname link is clicked, the configuration information of the target tenant, L-Platform or L-Server is displayed in a separate window. Refer to "4.2.2 Configuration Information Display" for the displayed configuration information. The following display names are displayed in accordance with the CI type: - For the tenant CI type: The tenant name determined during tenant registration ("tenant name (tenant ID)") - For the L-Platform CI type: The L-Platform subscription name set during L-Platform subscription - For the L-Server CI type: The L-Server name set during L-Platform subscription or L-Platform reconfiguration ("server name (host name)")
CI Type	This column displays the configuration item type. The CI type displayed depends on the element selected in the tree at the left. The CI types are as follows:

Item	Explanation
	- Tenant: If a tenant is selected - L-Platform: If an L-Platform is selected - L-Server: If an L-Server is selected

📌 Note

Clicking the CI list column headers to sort the columns is effective only for the range displayed in that page. The sorting specification is reset when the next or previous page is displayed. Sorting spanning multiple pages is not available.

4.2.1 System Conditions Display

The system conditions of the L-Platforms selected in the system conditions window CI list is displayed as a graph at **System Conditions** in the lower part of the window. Up to five L-Servers can be displayed at once in the graphs. If more than five L-Servers are selected, the first five are displayed.

The system conditions contents can be switched by clicking the **System Conditions** tabs.

The table below shows the contents under the **System Conditions** tabs.

Tab name	Display content (*1)	Graph type	Display interval	Display interval switching (*2)
Total	Totals for each status	Vertical bar graph	30 minutes, starting from the current time	Not possible
CPU	CPU utilization	Horizontal polyline graph	One hour/day/month/year from the current time	Possible
Disk	Disk R/W usage (*3)	Horizontal polyline graph	One hour/day/month/year from the current time	Possible
	Disk R/W count (*4)	Horizontal polyline graph	One hour/day/month/year from the current time	Possible
Memory	Memory usage (*5)	Horizontal polyline graph	One hour/day/month/year from the current time	Possible
Network	Network usage (*6)	Horizontal polyline graph	One hour/day/month/year from the current time	Possible
All	Overview of all the above statuses	Horizontal polyline graph	One hour/day/month/year from the current time	Possible

*1: Information is displayed using a different color for each L-Server.

*2: The display interval can be switched to a shorter interval by clicking the data plotting area of a horizontal polyline graph, or switched to a longer interval by clicking outside the data plotting area.

*3: Disk usage and network usage are not displayed if the virtualization software is Hyper-V, RHEL5-Xen, and Solaris Container.

*4: The disk R/W count is not displayed if the virtualization software is Hyper-V, RHEL-KVM, and Solaris Container.

*5: The memory usage is not displayed if the virtualization software is Hyper-V. However, it is displayed if the dynamic memory setting is enabled.

*6: The network usage is not displayed if the virtualization software is Hyper-V, and Solaris Container. It is also not displayed if the physical L-Server is Linux/Solaris.

📌 Note

- Information obtained from virtualization software is displayed in the system conditions. Virtual Memory usage is not included.

- The system conditions data is not reflected in the display until collection at the fixed intervals shown below is completed. Check the display after the fixed intervals shown below.

Note that, if the contents are empty after a fixed interval, the connection destination L-Platform may be stopped. Contact the Tenant Administrator.

Tab name	Display period (*)	Collection time required before displaying
Total	30 days	one whole day (from 0:00 to 23:59)
CPU Disk Memory Network	one hour	ten whole minutes (from 0 minutes to 9 minutes)
	one day	one whole hour (from 0 minutes to 59 minutes)
	one month/one year	one whole day (from 0:00 to 23:59)

* Note: The display period in each tab except for Total tab can be selected from one hour, one day, one month, or one year.

- System conditions data is not displayed if the power is off at the monitored L-Server.

- If the CPU utilization status continues at 100% at the monitored L-Server, data collection timing may be delayed and an error of about one second may occur. This may cause CPU utilization (average value for a specified unit of time) to exceed 100%. Take into account the possibility of data errors when using this display.
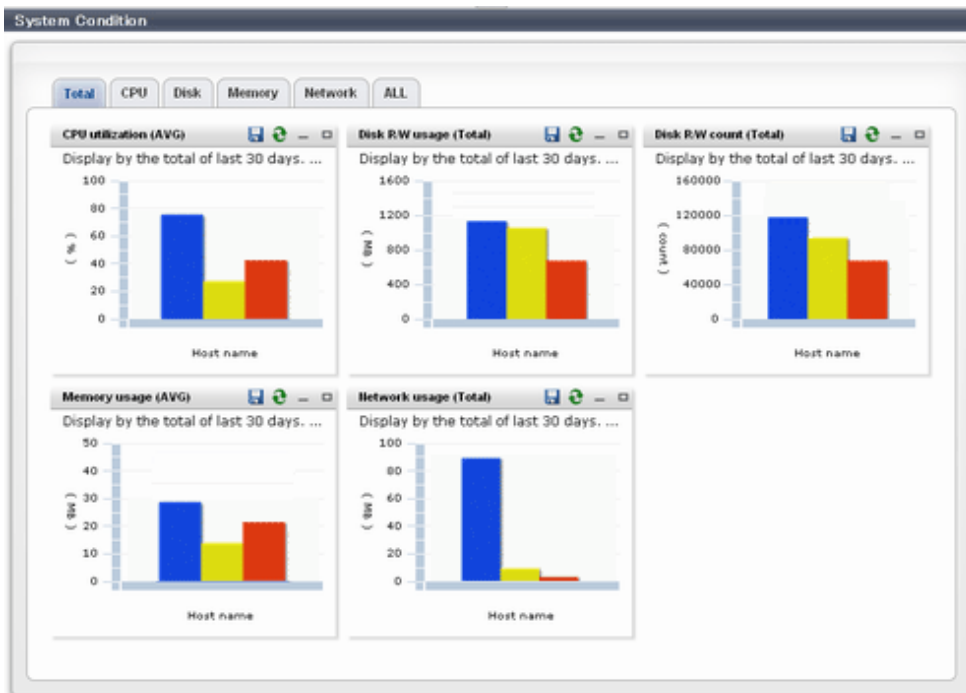
Example:
If a monitored L-Server has one CPU and is displayed in units of one hour, the value in the system conditions graphs and CSV file data may be displayed as 100.03% (60.02 minutes (near equal 3601 seconds)/60 minutes) even though the upper limit for CPU utilization is 100%.
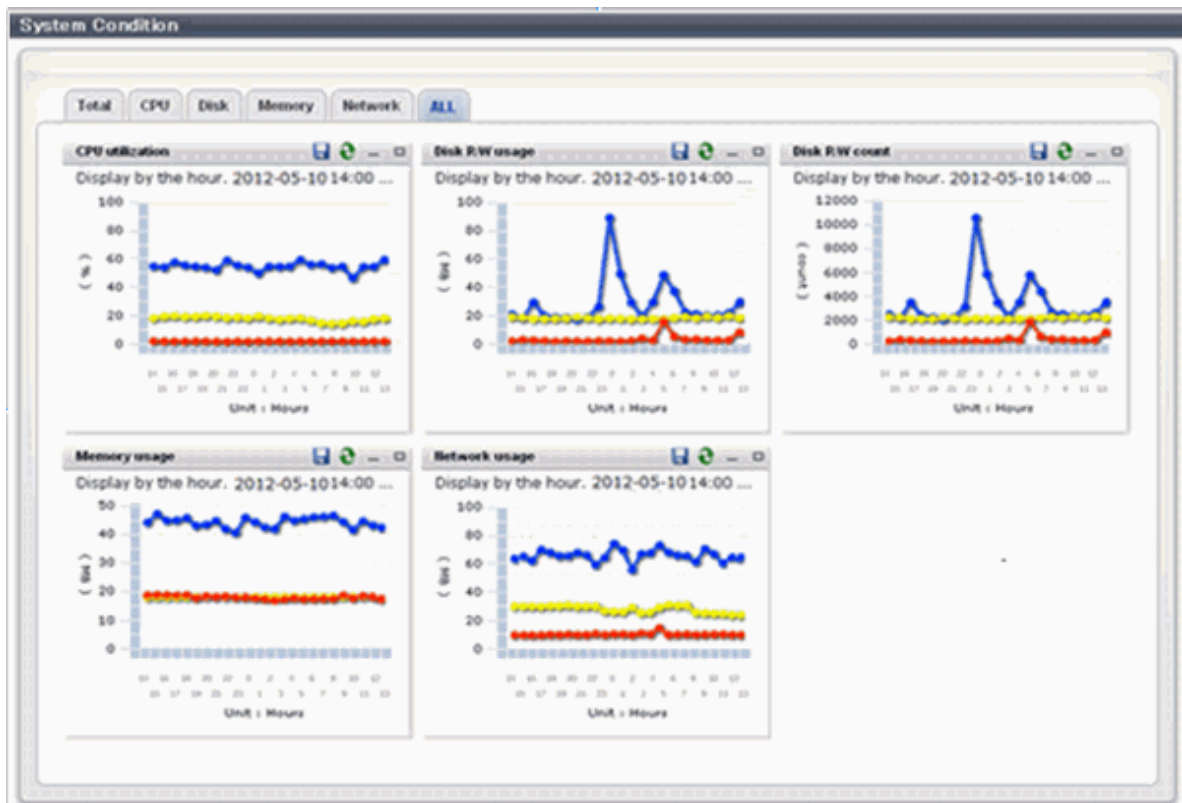
Display examples for the **Total** tab and the **All** tab are shown below.

- **Total** tab

- **All** tab

At each tab, the following icons displayed in the title bar can be used:

Icon	Tool tip	Explanation
	Update	Updates the displayed contents
	Download CSV file	Downloads the graph data in CSV format
—	Minimize	Minimizes the specified window
□	Maximize	Maximizes the specified window
⊡	Restore	Restores the maximized window

The table below shows the CSV file items if data is downloaded from each graph.

Note that the CSV file encoding is Shift-JIS.

Graph type	Column name	Explanation	Unit	Description
CPU utilization	sdattim	Collection start time (*)		yyyy-mm-dd HH:mm:ss
	resrcid	Resource ID		- in case of physical servers and Windows: "#" + CPU number or _Total - in case of physical servers and Linux/Solaris: CPU number or _Total - in case of Hyper-V: VM name + ":Hv VP" + virtual Processer number

Graph type	Column name	Explanation	Unit	Description
	recid	Record ID		Output any of the following - WIN_CPUBUSY - UX_CPUBUSY - VMW_GCPU - HV_VCPU - XEN_CPU - KVM_CPU
	consintl	Interval time	second	- in case of interval time is 10 minutes: 600 - in case of 1 hour: 3600 - in case of 24 hour: 86400
	coverage	Data coverage	(0 to 1)	
	cpupcent	CPU utilization	%	Output for physical servers Processer utilization
	vmgcused	CPU utilization	%	Output only for VMware Physical CPU utilization per virtual machine
	physres	Physical CPU information or virtual CPU information		Output only for VMware
	ptrtim	CPU utilization	%	Output only for Hyper-V Utilization of virtual processors allocated to a virtual machine and consumed by hypervisor code
	xenpcused	CPU utilization	%	Output only for RHEL5-Xen CPU utilization (total utilization of virtual CPUs set in the domain)
	xencpun	Number of virtual CPUs in the domain	number	Output only for RHEL5-Xen
	Nickname	VM name		
	kvmcpupcent	CPU utilization	%	Output only for RHEL-KVM CPU utilization (total utilization of virtual CPUs set in the domain)
	kvmcpus	Number of virtual CPUs in the domain		Output only for RHEL-KVM
	zonecpucappct	CPU utilization	%	Output for Solaris container CPU utilization (utilization of virtual CPUs set in the zone)
Disk R/W usage	sdattim	Collection start time (*)		yyyy-mm-dd HH:mm:ss
	resrcid	Resource ID		- in case of physical servers and Windows: drive name or _Total - in case of physical servers and Linux/ Solaris: device name
	recid	Record ID		Output any of the following

Graph type	Column name	Explanation	Unit	Description
				- WIN_PHYDISKBUSY
				- UX_DISKBUSY
				- VMW_DISK
				- KVM_DISK
	consintl	Interval time	second	- in case of interval time is 10 minutes: 600 - in case of 1 hour: 3600 - in case of 24 hour: 86400
	coverage	Data coverage	(0 to 1)	
	preadbyt	Disk read usage	bytes	Output only for Windows
	pwritbyt	Disk write usage	bytes	Output only for Windows
	iokreads	Disk read usage	Kbytes	Output only for Linux/Solaris
	iokwrite	Disk write usage	Kbytes	Output only for Linux/Solaris
	vmdmbread	Disk read usage	Mbytes	Output only for VMware Disk read usage for virtual machine and storage device units
	vmdmbwrt	Disk write usage	Mbytes	Output only for VMware Disk write usage for virtual machine and storage device units
	Nickname	VM name		Output for VMware/RHEL5-KVM/ physical server
	kvmdiskblockrdby	Disk read usage	bytes	Output only for RHEL-KVM Disk read usage in the domain
	kvmdiskblockwrby	Disk write usage	bytes	Output only for RHEL-KVM Disk write usage in the domain
Disk R/W count	sdattim	Collection start time (*)		yyyy-mm-dd HH:mm:ss
	resrcid	Resource ID		- in case of physical servers and Windows: drive name or _Total - in case of physical servers and Linux/ Solaris: device name
	recid	Record ID		Output any of the following - WIN_PHYDISKBUSY - UX_DISKBUSY - VMW_DISK
	consintl	Interval time	second	- in case of interval time is 10 minutes: 600 - in case of 1 hour: 3600 - in case of 24 hour: 86400
	coverage	Data coverage	(0 to 1)	
	preadsec	Disk read count		Output only for Windows Physical disk read operation count

Graph type	Column name	Explanation	Unit	Description
	pwritsec	Disk write count		Output only for Windows Physical disk write operation count
	ioreads	Disk read count		Output only for Linux/Solaris read count
	iowrite	Disk write count		Output only for Linux/Solaris write count
	vmdreads	Disk read count		Output only for VMware Disk read count for virtual machine and storage device units
	vmdwrites	Disk write count		Output only for VMware Disk write count for virtual machine and storage device units
	vbdrd	Disk read count		Output only for RHEL5-Xen Virtual block device read count
	vbdwr	Disk write count		Output only for RHEL5-Xen Virtual block device write count
	Nickname	VM name		Output for VMware/RHEL5-Xen/physical server
Memory usage	sdattim	Collection start time (*)		yyyy-mm-dd HH:mm:ss
	resrcid	Resource ID		- in case of physical servers and Windows: MEMORY - in case of physical servers and Linux/ Solaris: FREEMEM
	recid	Record ID		Output any of the following - WIN_MEMORY - UX_MEMFREE - VMW_MEM - HV_DMEM_VM - XEN_MEM - KVM-MEM
	consintl	Interval time		- in case of interval time is 10 minutes: 600 - in case of 1 hour: 3600 - in case of 24 hour: 86400
	coverage	Data coverage	(0 to 1)	
	comtot	Memory usage	bytes	Output only for Windows Commit size
	freememp	Memory usage	bytes	Output only for Linux Memory size utilization for user processes
	memuse	Memory usage	percent	Output only for Linux
	Vmgmtm	Memory usage	Mbytes	Output only for VMware Estimated working set size of resource pool and virtual machine units

Graph type	Column name	Explanation	Unit	Description
	ppmemdmvm	Memory usage	Mbytes	Output only for Hyper-V Current memory capacity of virtual machine
	xenavm	Memory usage	Mbytes	Output only for RHEL5-Xen Memory capacity allocated to domain
	Nickname	VM name		
	kvmmemused	Memory usage	Mbytes	Output only for RHEL-KVM Memory capacity allocated to domain
	zonepmemused	Memory usage	Kbytes	Output for Solaris container Memory capacity allocated to zone
Network utilization	sdattim	Collection start time (*)		yyyy-mm-dd HH:mm:ss
	resrcid	Resource ID		Output only for Windows Network device name
	recid	Record ID		Output any of the following - WIN_NET_INTERFACE - VMW_NET - XEN_NET - KVM-NET
	consintl	Interval time		- in case of interval time is 10 minutes: 600 - in case of 1 hour: 3600 - in case of 24 hour: 86400
	coverage	Data coverage	(0 to 1)	
	ifbytin	Network usage (received)	bytes	Output only for Windows Amount of received data(byte)
	ifbytot	Network usage (sent)	bytes	Output only for Windows Amount of sent data(byte)
	vmnpmvtr	Network usage (sent)	Mbits	Output only for VMware Amount of data transferred by virtual network device port unit
	vmnpmbrecv	Network usage (received)	Mbits	Output only for VMware Amount of data received by virtual network device port unit
	xenkbtx	Network usage (sent)	Kbytes	Output only for RHEL5-Xen Amount of data sent by virtual network interface
	xenkbrx	Network usage (received)	Kbytes	Output only for RHEL5-Xen Amount of data received by virtual network interface
	Nickname	VM name		Output for VMware/RHEL5-Xen/RHEL-KVM/and physical servers with Windows OS
	kvmnetrxby	Network usage (received)	bytes	Output only for RHEL-KVM Amount of data sent by virtual network interface

Graph type	Column name	Explanation	Unit	Description
	kvmnettxby	Network usage (sent)	bytes	Output only for RHEL-KVM Amount of data received by virtual network interface

* Note: When the information from the virtual L-server where the live migration was performed is output to CSV, the following phenomena may occur:

- Information for a certain point of time is output twice
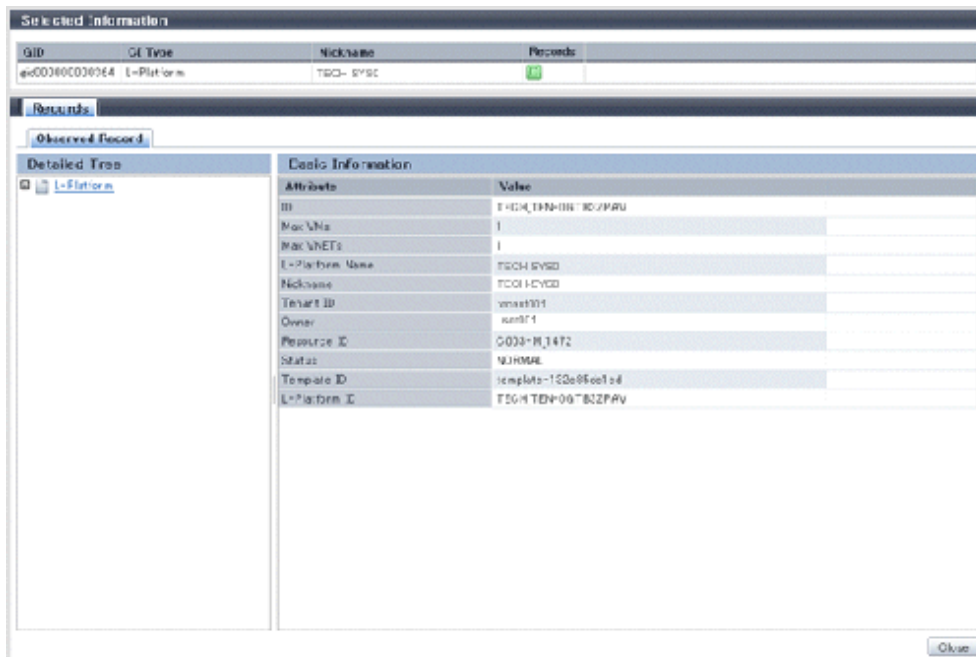
- Information for a certain point of time is not output

If there is a large difference in the time and date in the VM host where the live migration was performed, the above phenomena will be more likely to occur.

4.2.2 Configuration Information Display

The tenant, L-Platforms and L-Servers displayed in the CI list of the system conditions window are managed as configuration items (CIs).

When the Nickname link in the CI list of the system conditions window is clicked, the configuration information of the target tenant, L-Platform or L-Server is displayed in a separate window.

A display example is shown below.

The table below explains the displayed items.

Item		Explanation
Selected Information	GID	Displays the identifier set by the system to identify the configuration item.
	CI Type	Displays the configuration item type. The CI types are as follows: - Tenant: If a tenant is selected - L-Platform: If an L-Platform is selected - L-Server: If an L-Server is selected
	Nickname	Displays the display name of the configuration item. The following display names are displayed in accordance with the CI type:

Item			Explanation
			- For the tenant CI type: The tenant name determined during tenant registration ("tenant name (tenant ID)")
			- For the L-Platform CI type: The L-Platform subscription name set during L-Platform subscription
			- For the L-Server CI type: The L-Server name set during L-Platform subscription or L-Platform reconfiguration ("server name (host name)")
	Record		Displays the type of records held by the configuration item. [0], indicating the actual information, is displayed.
Record	**Detailed Tree**		This is a tree of the elements comprising the configuration item. The following elements are displayed in accordance with the CI type:
			- For the tenant CI type: Tenants
			- For the L-Platform CI type: Instances
			- For the L-Server CI type: L-Server node information
			When an element is selected, the element attribute values are displayed in the basic information. Values are displayed as attribute values, and differ depending on the element:
			- If the element is a tenant: The value determined during tenant registration
			- If the element is an instance: The value set during L-Platform subscription
			- If the element is L-Server node information: The value set during L-Platform subscription or L-Platform reconfiguration
	Basic Information	**Attribute**	Displays the attribute name. When the label in the upper part is clicked, items can be sorted by attribute name.
		Value	Displays the attribute value. When the label in the upper part is clicked, items can be sorted by attribute value.
Close button			When this button is clicked, the window closes.

Chapter 5 L-Platform

This chapter explains how to use the L-Platform.

5.1 Display L-Platform

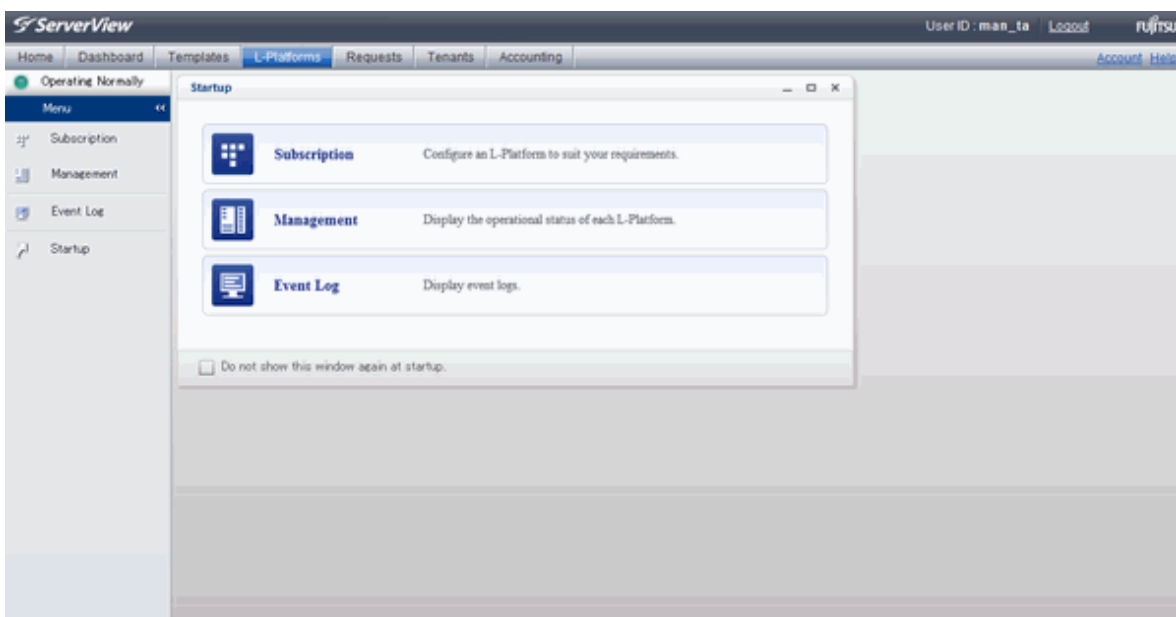This section explains how to display the L-Platform and describes the top page.

How to display the L-Platform

To display the L-Platform:

- On the ROR Console after login, select the **L-Platform** tab.

L-Platform Top Page

An example of the L-Platform home page is shown below.

The following section explains the contents of the L-Platform operation menu:

- L-Platform Subscription
  When **Subscription** is selected, the page used to subscribe to a service will be displayed.
  Refer to "5.2 Subscribe to an L-Platform" for the L-Platform management method.

- L-Platform Management
  When Management is selected, a list of created L-Platforms is displayed.
  Refer to "5.3 L-Platform Management" for the L-Platform management method.

- Event logs
  When Event Log is selected, logs of information about errors that have occurred while using the L-Platform functions will be displayed.

  Refer to "5.4 Display Event Logs" for the event log display method.

- Startup
  When Startup is selected, major functions of L-Platform and their overview will be displayed.

....

The **Startup** page is displayed as the home page of L-Platform. To prevent the **Startup** page from being displayed as the home page, select the **Do not show this window again at startup** check box.

....

- **Close** link
  When **Close** link is clicked, the confirmation window for closing the window will be displayed. Click **Yes** on the confirmation window to close the L-Platform window.

....

- If it becomes impossible to connect by the management server stop and etc. when L-Platform is being operated, the lamp in the menu becomes gray and the message "Not Operating" is displayed. In this case, contact the system administrator. According to the displayed window and the performed operation, an error message like the following may be displayed.

    - Failed to get system configuration.

    - Failed to get the access right.

....

5.2 Subscribe to an L-Platform

This section explains how to subscribe to an L-Platform

....

It may take several minutes for an L-Platform subscription request to be accepted according to the number and the configuration of servers that compose the L-Platform.

After the **Subscribe** button is clicked, operations such as closing the browser, clicking the **Back** button of the browser, or reloading the current page, before the subscription request is accepted, may cause the request to be cancelled. Do not perform any other operations until the request is accepted.

....

5.2.1 Subscribe to a New L-Platform

On the **Subscription** page of L-Platform, the user can subscribe to an L-Platform on the basis of the specification that has been registered.

Two methods are available to subscribe to a new L-Platform. The method to be used is determined by the method of subscription that the Infrastructure administrator department has specified.

- L-Platform Template reconfiguration not possible
  Changes to registered L-Platform Templates are not permitted.

- L-Platform Template reconfiguration possible
 Changes to registered L-Platform Templates are permitted.

The procedure for each method is shown below.

L-Platform Template Reconfiguration not Possible

Follow the steps below to subscribe to a new L-Platform:

1. Select **Subscription** on the operation menu of **New L-Platform** page.
   The **Subscription** page will be displayed.

2. Confirm the procedures on the **Subscription** page, and click the **Subscribe a new L-Platform** button.

3. Confirm the contents of the L-Platform template on the **Select Template** page, and select L-Platform template to be used.
   All the L-Platform templates that are registered in the L-Platform and enabled are displayed on the **Select Template** page.

   For each L-Platform template, the corresponding usage fees will also be displayed.

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Estimated charges for the L-Platform template will only be displayed when the usage fees display is set to enabled.

. . . .
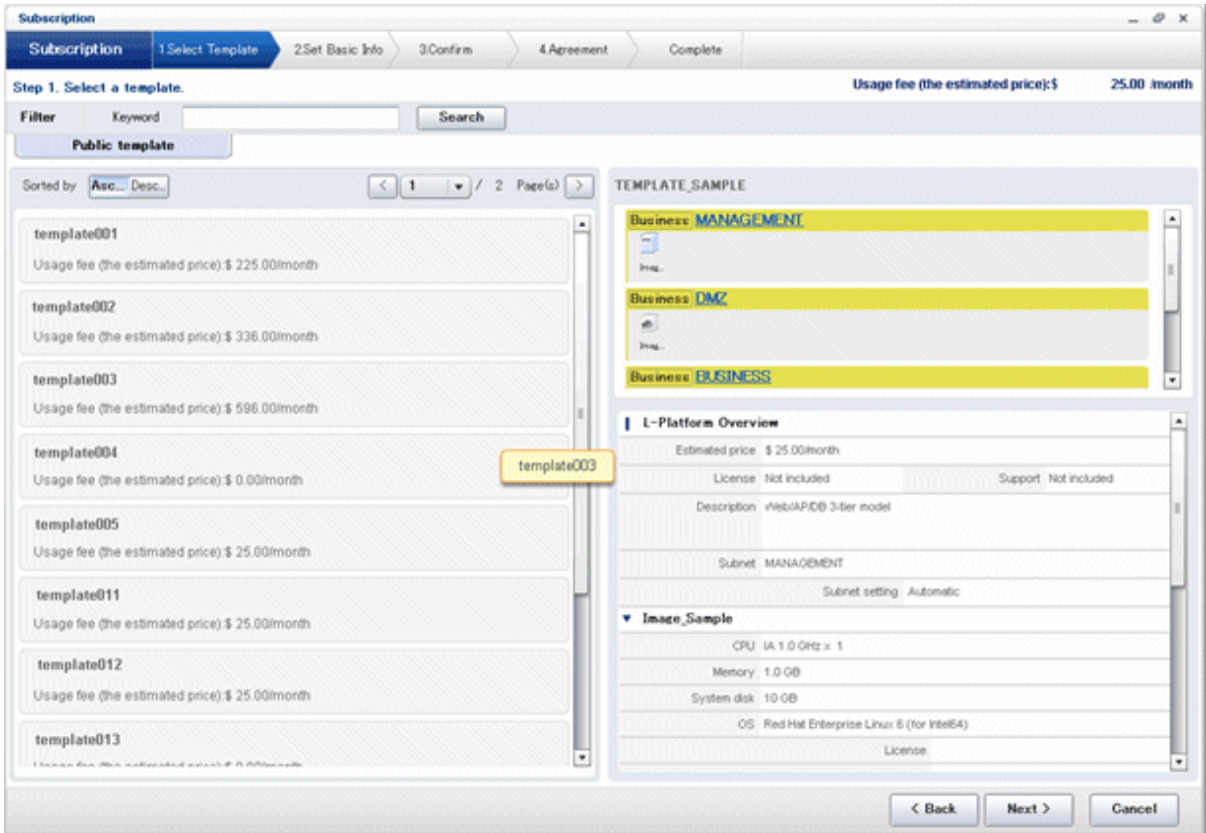
L-Platform templates are displayed by the L-Platform template name in ascending order. The sequence in the specification display can be switched by clicking **Sorted by** followed by the **Ascending order** or **Descending order** button.

To search an L-Platform template using the keyword search function, enter **Keyword** and then click the **Search** button. Specify a character string in **Keyword** that is the keyword for the L-Platform template the user wants to use. When a keyword is specified, a search takes place based on the keywords that the Infrastructure administrator set in the specifications. The keyword search function cannot be used if the Infrastructure administrator did not set keywords.
For example, to search a specification where Red Hat Linux 5.1 is installed as the operating system, specify "Linux 5.1".

4. Select the L-Platform template to be used and click the **Next** button.
   The **Set Basic Info** page will be displayed.

   The **L-Platform Name** displays the L-Platform template name.
   To change to an arbitrary name, the new name must be no more than 85 characters long, be unique within the organization and not include the following characters:

   ```
   <  >  &  '  " and control characters
   ```

   However, the strings and the number of characters that can be specified may vary depending on the L-Platform settings.
   It is recommended that the name be specified using no more than 23 of the following characters:

   ```
   Alphanumeric characters, underscores ("_") and hyphens ("-")
   ```

5. Enter a name to **L-Platform Name**, and click the **Next** button.
   The **Confirm** page will be displayed.

6. Check the displayed contents of the L-Platform configuration, and click the **Next** button.
   When the **Next** button is clicked, the **Agreement** page will be displayed.

7. Check the license agreement displayed. Select the **Agree the license** check box, then, click the **Subscribe** button.

The **Complete** page will be displayed when the subscription to the L-Platform is accepted.

- When the application process is disabled

  The following message will be displayed:
  "A request to subscribe the L-Platform has been completed. The deployment may take some time to complete."

- When the application process is enabled

  The following message will be displayed:
  "The request to subscribe the L-Platform has been completed. The L-Platform will be deployed after approval and/or judgment procedures."

8. Click the **Close** button. The display returns to the **Subscription** page.

### L-Platform Template Reconfiguration Possible

Follow the steps below to subscribe to a new L-Platform:

1. Select **Subscription** on the operation menu of the **Subscription** page.
   The **Subscription** page will be displayed.

2. Confirm the procedures on the **Subscription** page, and click the **Subscribe a new L-Platform** button.

3. Confirm the contents of the L-Platform templates on the **Select Template** page, and select the L-Platform template to be used.
   All the L-Platform templates that are registered in the L-Platform and enabled are displayed on the **Select Template** page.

   For each L-Platform template, the corresponding usage fees will also be displayed.

   ## 🅿 Point
   ....

   Estimated charges for the L-Platform template will only be displayed when the usage fees display is set to enabled.
   ....
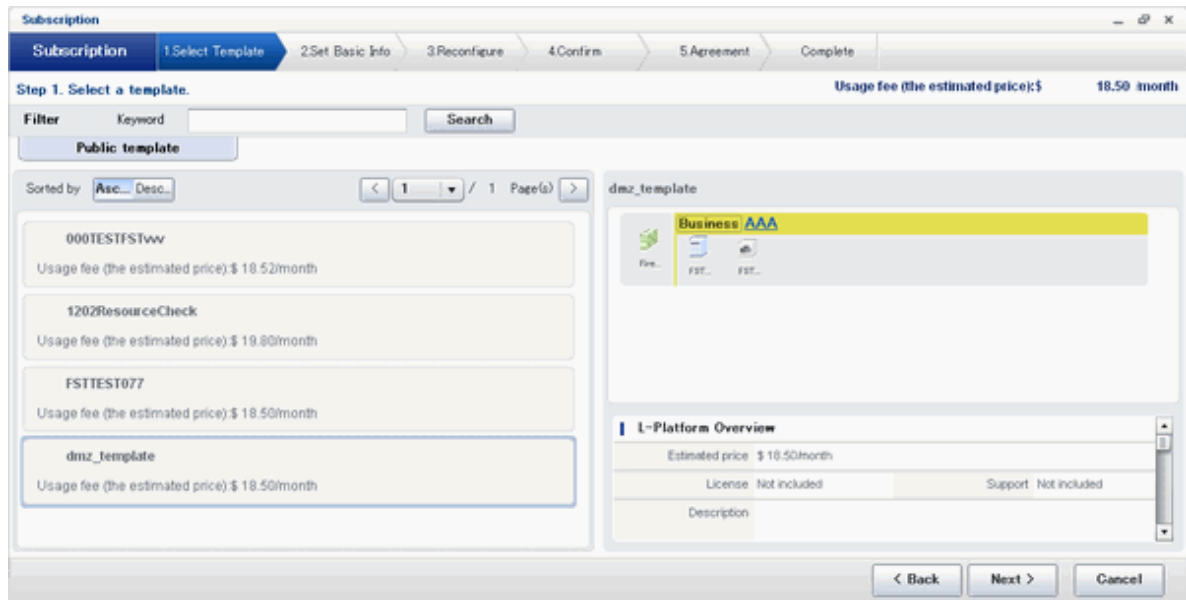
   L-Platform templates are displayed by the L-Platform template name in ascending order. The sequence in the specification display can be switched by clicking **Sorted by** followed by the **Ascending order** or **Descending order** button.

   To search a specification using the keyword search function, enter **Keyword** and then click the **Search** button.

   Specify a character string in **Keyword** that is the keyword for the L-Platform template the user wants to use. When a keyword is specified, a search takes place based on the keywords that the infrastructure administrator set in the specifications. The keyword search function cannot be used if the infrastructure administrator did not set keywords.
   For example, to search an L-Platform template where Red Hat Linux 5.1 is installed as the operating system, specify "Linux 5.1".

4. Select the L-Platform template to be used and click the **Next** button.
   The **Set Basic Info** page will be displayed.

   The **L-Platform Name** is displayed by the L-Platform template name.
   To change to an arbitrary name, the new name must be no more than 85 characters long, be unique within the organization and not include the following characters:

   ```
   <, >, &, ', " and control characters
   ```

   However, the strings and the number of characters that can be specified may vary depending on the L-Platform settings.
   It is recommended that the name be specified using no more than 23 of the following characters.

   ```
   Alphanumeric characters, underscores ("_") and hyphens ("-")
   ```

5. Enter a name to **L-Platform Name**, and click the **Next** button.
   The **Reconfigure** page will be displayed.
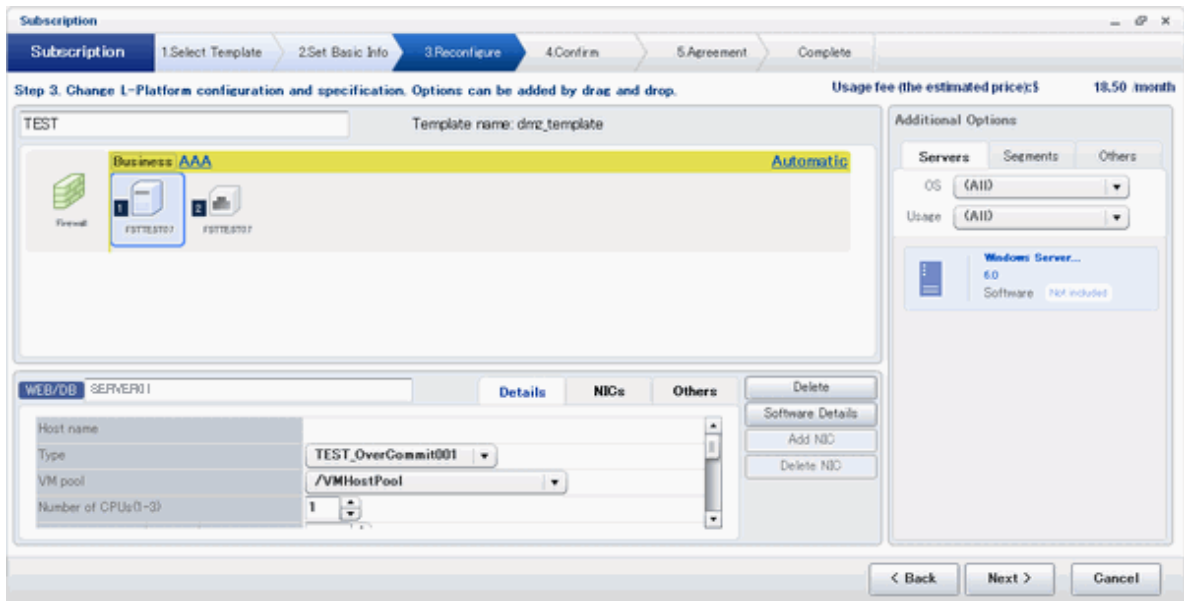
6. This will display the configuration of the L-Platform template selected on the **Reconfigure** page. Change the configuration as required.
   For the items that can be changed on the **Reconfigure** page, refer to "5.3.14 Reconfiguration Page".

7. When modification of the L-Platform template has completed, click the **Next** button.
   The **Confirm** page will be displayed.

Item	Display format
Item changed	The values of changed items are displayed in red. The value before the change is displayed as "changed from *the old value*".
Item added	"* added" is displayed after added elements. The values of added items are displayed in red. The background of added items is also displayed in red.
Item deleted	"* deleted" is displayed after deleted items. The background of deleted items is displayed in grey.

Point

CSV output

When the **Save as CSV** button is clicked, the **Select the destination to save** window is displayed where the L-Platform Template configuration can be saved as a CSV file.
The default CSV file name format is shown below. This file name can be modified as necessary.

```
SystemConfiguration (+ <L-Platform name> +)_ <date> + .csv
```

Save configuration

By clicking the **Save Configuration** button, the L-Platform configuration is saved, and the display returns to the **Subscription** page. The saved L-Platform template can be subscribed by clicking the **Create from saved L-Platforms button** on the **Subscription** page.

8. Check the displayed contents of the L-Platform, and click the **Next** button.
   When the **Next** button is clicked, the **Agreement** page will be displayed.

9. Review and agree with the license agreement displayed. Select the **Agree the license** check box, then, click the **Subscribe** button.

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When the application process is enabled, clicking of the **Subscribe** button on the **Agreement** page displays the **Forward screen** window. Refer to "5.5 Select Forward Destination of Application Process" for details.
. . . .

The **Complete** page will be displayed when the subscription to the L-Platform is accepted.

- When the application process is disabled

  The following message will be displayed:
  "A request to subscribe the L-Platform has been completed. The deployment may take some time to complete."

- When the application process is enabled

  The following message will be displayed:
  "The request to subscribe the L-Platform has been completed. The L-Platform will be deployed after approval and/or judgement procedures."

10. Click the **Close** button. The display returns to the **Subscription** page.

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- When a subscribed L-Platform is deployed, a subscription completion notification email is sent to the subscriber. This email contains the information necessary to access the L-Platform. If deployment of the subscribed L-Platform fails, a subscription failure notification email is sent to the subscriber and the Infrastructure Administrator.

- When a subscribed L-Platform includes server load balancer (SLB), refer to "5.3.9 Server Load Balancer (SLB) Settings" and setup the server load balancer after deploying the L-Platform and before operating the server load balancers.
. . . .

5.2.2 L-Platform Subscription after Saving Configuration

An L-Platform subscription can be submitted on the basis of an L-Platform Template for which the configuration is currently being saved.

Perform the following steps to submit an L-Platform subscription from this type of L-Platform Template:

1. Select **Subscription** on the operation menu of the **Subscription** page.
   This will display the procedures required to subscribe to an L-Platform.

2. After confirming the procedure, select **Subscribe from saved data**.
   The **Select Template** page will be displayed.

   The time limit for estimating is displayed in each L-Platform templates.

   When an L-Platform Template is selected from the L-Platform Template list, detailed information about the usage fees and L-Platform Template at the time when the L-Platform Template was saved is displayed.

   When the application process is enabled, the following status will be displayed before the L-Platform template names in the list of L-Platform templates:

   - SAVED: Specification being saved
     The **Next** button will become available after selecting this item.

   - UNAPPROVAL: Not approved
     The **Next** button will not become available even after selecting this item.

   - REJECTION: Subscription rejected
     The **Next** button will not become available even after selecting this item.

🕮 Note

In the application process, the L-Platform templates waiting to approve or to assess become the UNAPPROVAL state.

If you want to delete the L-Platform templates which state is UNAPPROVAL, cancel the corresponding application from application list of L-Platform. After canceling, it is deleted automatically.

When you delete the L-Platform templates which state is UNAPPROVAL on L-Platform template, errors occurs because there is no L-Platform template in processing the application process.

The L-Platform template which is rejected or dismissed at application process becomes REJECTTION state.

Delete it from L-Platform after the confirmation if necessary.

🅿 Point

Usage fees and quotation expiry dates for the L-Platform template will only be displayed when the usage fees display is set to enabled. Note also that the usage fees will display the price at the time the L-Platform template was saved. In particular, please be aware that this display will not change even if the price of the L-Platform is modified.
Furthermore, the displayed quotation expiry date is based on the validity period of estimated charges for the L-Platform template, and indicates the 30th day after the L-Platform template was saved.

3. Select the L-Platform template to be used and click the **Next** button
   The **Confirm** page will be displayed.

🅿 Point

CSV output

When the **Save as CSV** button is clicked, the **Select the destination to save** window is displayed where the L-Platform template can be saved as a CSV file.
The default CSV file name format is shown below. This file name can be modified as necessary.

```
SystemConfiguration (+ <L-Platform name> +)_ <date> + .csv
```

4. Check the displayed contents of the L-Platform configuration, and click the **Next** button.
   When the **Next** button is clicked, the **Agreement** page will be displayed.

5. Review and agree with the license agreement displayed. Select the **Agree the license** check box, then, click the **Subscribe** button.

🅿 Point

- When the application process is enabled, clicking of the **Subscribe** button on the **Agreement** page displays the **Forward screen** window. Refer to "5.5 Select Forward Destination of Application Process" for details.

- The saved specification will be removed if the **Subscribe** button on the **Agreement** page is clicked. To keep the specification, click the **Cancel** button.

The **Complete** page will be displayed when the subscription to the L-Platform is accepted.

- When the application process is disabled

  The following message will be displayed.
  "A request to subscribe the L-Platform has been completed. The deployment may take some time to complete."

- When the application process is enabled

  The following message will be displayed.
  "The request to subscribe the L-Platform has been completed. The L-Platform will be deployed after approval and/or judgement procedures."

6. Click the **Close** button. The display returns to the **Subscription** page.

 Point
. . . .

- When a subscribed L-Platform is deployed, a subscription completion notification email is sent to the subscriber. This email contains the information necessary to access the L-Platform. If deployment of the subscribed L-Platform fails, a subscription failure notification email is sent to the subscriber and the Infrastructure Administrator. In this case, check with the Infrastructure Administrator, and then subscribe again.

- When a subscribed L-Platform includes server load balancer (SLB), refer to "5.3.9 Server Load Balancer (SLB) Settings" and setup the server load balancer after deploying the L-Platform and before operating the server load balancers.

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5.3 L-Platform Management

This section explains how to use the **Management** page to manage L-Platforms that are in use.

The L-Platforms targeted by L-Platform management vary in accordance with the user, as follows:

- Infrastructure Administrator

  All L-Platforms.

- Tenant Administrator
  All L-Platforms being used by owned tenants.

- Tenant users
  Only L-Platforms in use by the user.

The **Management** page can be used to display a list of the L-Platforms currently being used.
The following L-Platform operations can also be performed:

- L-Platform detailed information display

- Disk detailed information display

- Server start and stop

- L-Platform reconfiguration

- Taking snapshots of and restoring virtual servers

- Physical server backup and restore

- L-Platform cancellation

5.3.1 L-Platform Management Display Page

This section explains how to display the L-Platform management page and explains the display format.

L-Platform Management Page Display Method

From the operation menu on the **L-Platform** page, select **Management**.

L-Platform Management Page Display Format

The L-Platform management page has the following three types of display format.

| Display format	Description
L-Platform Management	Displays the L-Platform configuration images in a list
L-Platform Management (list)	Displays the L-Platform list
Server List	The list displays virtual servers. It can display all servers or inactive servers.

The buttons in the upper-left section of the page can be used to switch between the "L-Platform Management" and "Server List" display formats.
The display can be switched between the "configuration" format and the "list" format using the button located on the top right hand side of the page (▪▪▪ ⅢⅢ).

Examples of each display format are shown below:

- L-Platform Management
  Click the **Management** button on the top left hand side of the page and then click the button (▪▪▪) on the top right hand side of the page to display an L-Platform list in a configuration image.
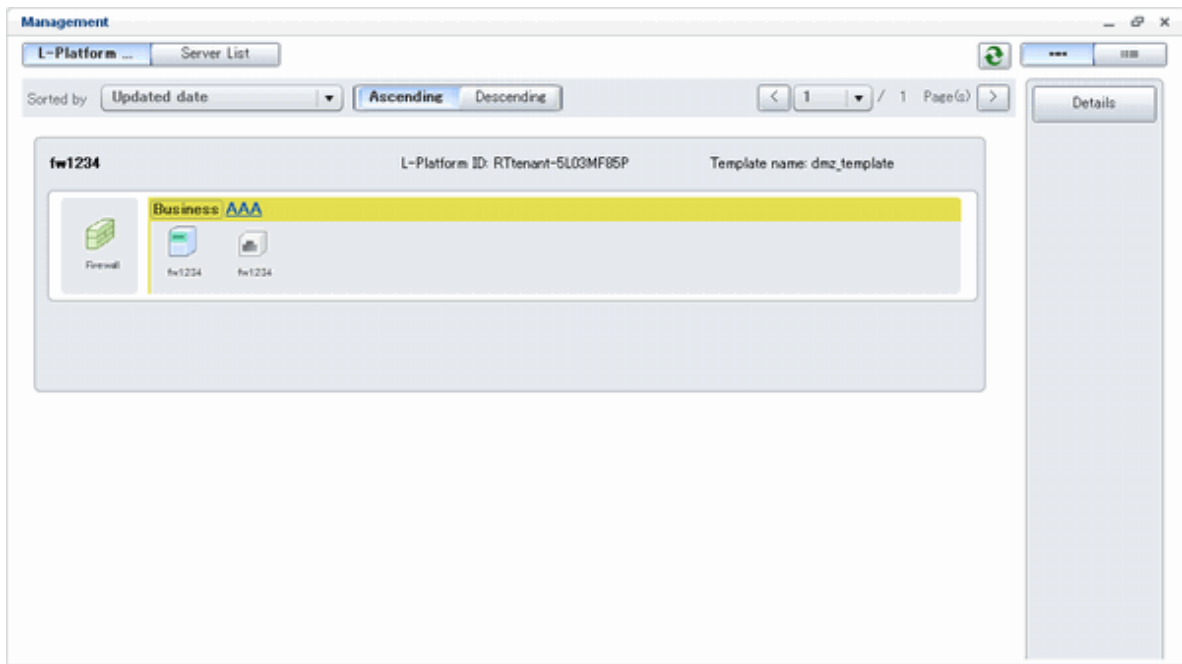
The following information can be checked on the **Management** page:

The following information can be checked using the **Management** page:

- L-Platform name: The L-Platform name set during L-Platform subscription

- L-Platform ID: The ID that identifies the L-Platform

- L-Platform Template name: The name of the L-Platform Template

- L-Platform configuration: The L-Platform configuration image

The sequence of the L-Platforms displayed can be switched by clicking **Sorted by** followed by the **Ascending order** or **Descending order** button for the following items:
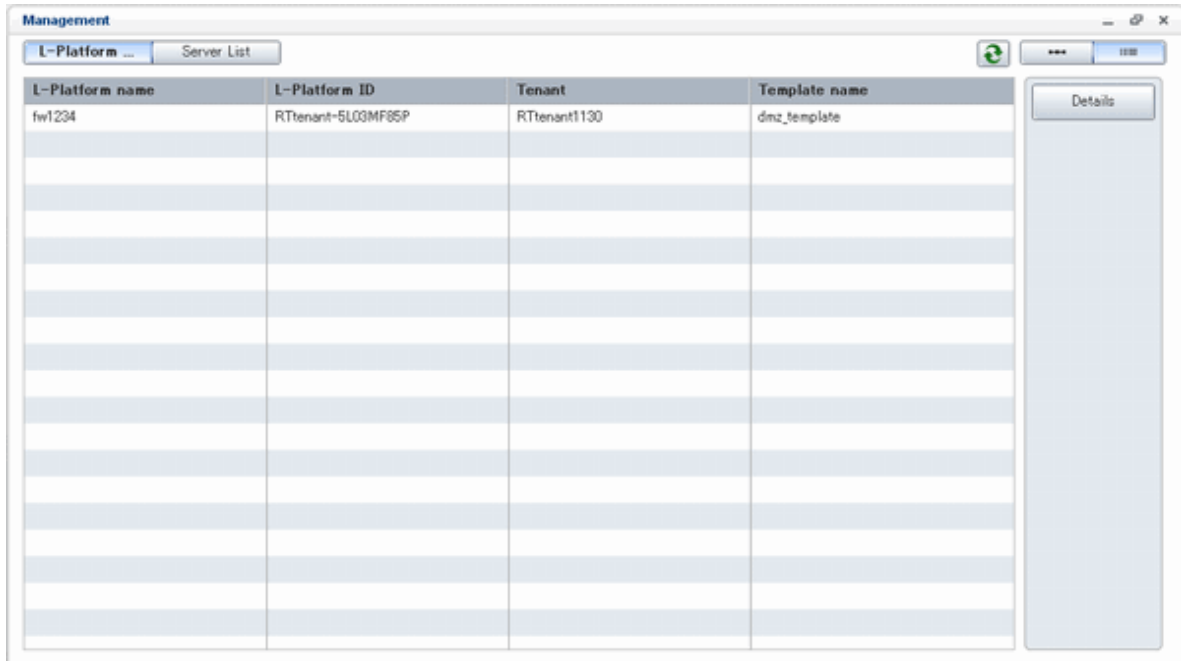
- Update date

- L-Platform name

- L-Platform ID

🅿 Point
. . . .
Using the **Details** button, details of the L-Platform can be displayed on the **Management** page. Refer to "5.3.2 L-Platform Detailed Information Display" for information on displaying the L-Platform details.
. . . .

- L-Platform Management (list)

Click the **Management** button on the top left hand side of the page and then click the button ( ) on the top right hand side of the page to display a list of information on the L-Platforms.

The following information can be checked on the **L-Platform Management (list)** page.

- L-Platform name: The L-Platform name set during L-Platform subscription

- L-Platform ID: An ID to identify the L-Platform

- Organization information: Identification number for the organization

- L-Platform template name: Name of the L-Platform template

The sequence of the L-Platforms displayed can be switched between ascending order and descending order by clicking the column headers (L-Platform name, L-Platform ID, etc).

Point

Using the **Details** button, details on the L-Platform can be displayed on the **L-Platform Management (list)** page. Refer to "5.3.2 L-Platform Detailed Information Display" for information on displaying the L-Platform details.

- Server List
  Click the **Server List** button on the top left hand side of the page to display a list of information on servers included in an L-Platform. The following shows an example of all servers being displayed. To display inactive servers, click the **Stopped** tab.
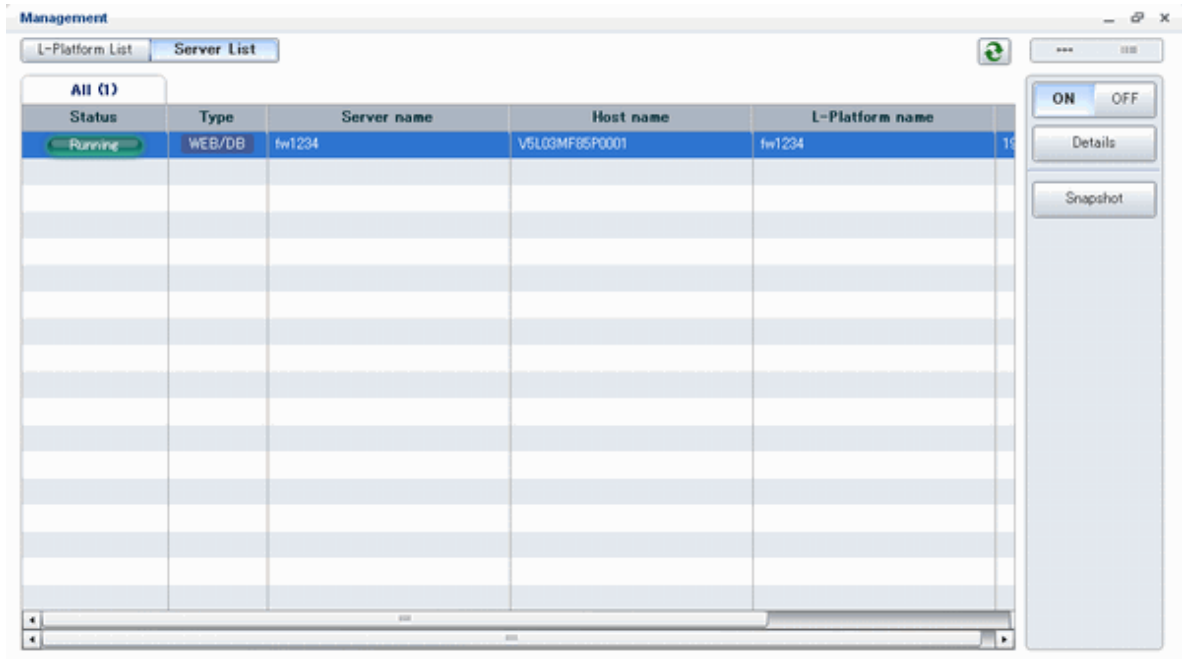
The following information can be checked on the **Server List** page.

  - Status: Server status (Running, Stopped)

  - Type: Server type

  - Server name: Server name

  - Host name: The server host name. However, this is not displayed for a physical server

  - L-Platform name: The L-Platform name set during L-Platform subscription

  - IP address: IP address of the server

  - Backup/Snapshot: Status of taking and restoring the backup and snapshots

  - Generation: Number of snapshots or backup stored

  - Number of snapshots: Number of snapshots or number of executed backups

The sequence of the servers displayed can be switched between ascending order and descending order by clicking the column headers (status, type, etc).

P Point

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The following buttons can be used to operate on the **Server List** page.

  - **ON** button: Start the server
    Refer to "5.3.4 Start and Stop the Server" for information on starting the server.

  - **OFF** button: Stop the server
    Refer to "5.3.4 Start and Stop the Server" for information on stopping the server.

  - **Details** button: Display details on an L-Platform or a disk.
    Refer to "5.3.2 L-Platform Detailed Information Display" for information on displaying L-Platform details. Refer to "5.3.3 Display Details on a Disk" for information on displaying details on a disk.

  - **Snapshot** button: Take and restore snapshots Refer to "5.3.6 Take and Restore Snapshot" for information on taking and restoring snapshots. However, this is not displayed for Solaris container management servers.

- **Backup** button: Backup and restore.

  This button is displayed for physical servers.

  Refer to "5.3.7 Physical Server Backup and Restore" for information on backup and restore.

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🛈 Note

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The **Running** icon for a server indicates that the power has been turned on.

Even if the **Running** icon is displayed, login to the L-Platform may fail if logged in immediately after deployment or starting the virtual server. In this case, allow a few minutes before trying to log in again.

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5.3.2 L-Platform Detailed Information Display
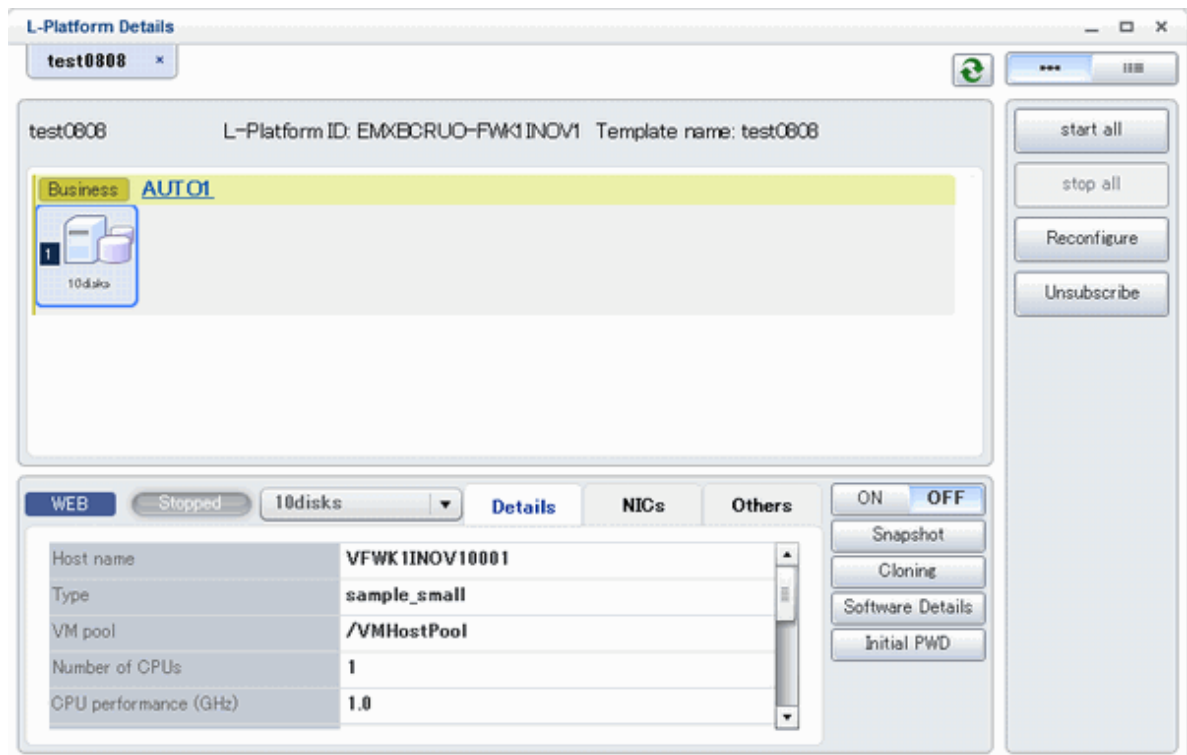
Follow the steps below to display the details of L-Platform:

1. Display the **L-Platform Management, L-Platform Management (list)**, or **Server List** page.

   Refer to "5.3.1 L-Platform Management Display Page" for information on how to display the page.

2. Click the **Details** button after selecting the L-Platform or the server required.

   The **L-Platform Details** page will be displayed.

   There are two types of display format for the **L-Platform Details** page below. The display format can be switched using the button ([⋯] [☰]) located on the top right hand side of the page.

   - L-Platform configuration image

     By clicking the button ([⋯]) located on the top right hand side of the page, the L-Platform configuration is displayed as an image.
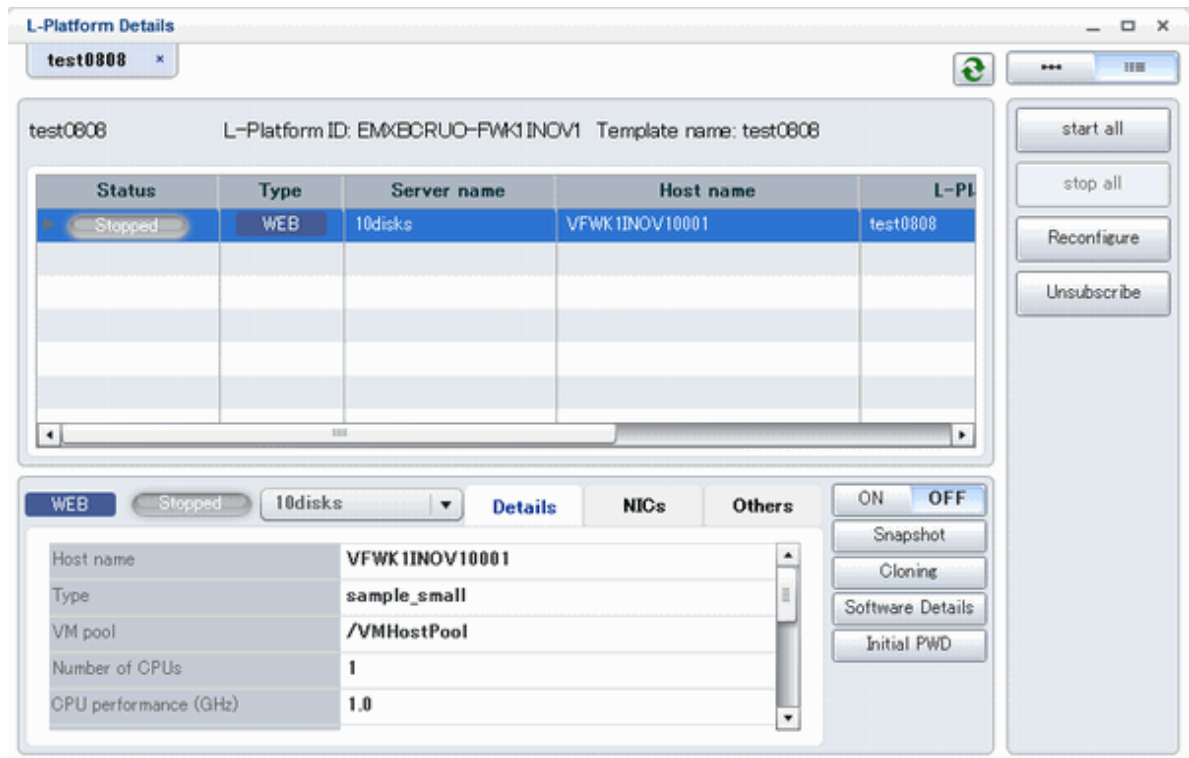
- Server List

    By clicking the button ([▥]) located on the top right hand side of the page, a list of all virtual servers included in the L-Platform is displayed. The server List also displays the extended disks included in the virtual servers.

Point
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The following buttons can be used on the **L-Platform Details** page:

- **start all** button: Turns the power on for all servers in the L-Platform as a group.

- **stop all** button: Turns the power off for all servers in the L-Platform as a group.

- **Reconfigure** button: Changes the L-Platform
  Refer to "5.3.12 L-Platform Reconfiguration" for information on changing L-Platforms.

- **Unsubscribe** button: Cancels the L-Platform
  Refer to "5.3.13 Cancel an L-Platform" for information on cancelling L-Platforms.

- **ON** button: Start the server
  Refer to "5.3.4 Start and Stop the Server" for information on starting the server.

- **OFF** button: Stop the server
  Refer to "5.3.4 Start and Stop the Server" for information on stopping the virtual server.

- **Snapshot** button: Take and restore snapshots
  This button is displayed for virtual servers. However, this is not displayed for Solaris container management servers.
  Refer to "5.3.6 Take and Restore Snapshot " for information on taking and restoring snapshots.

- **Backup** button: Backup and restore
  This button is displayed for physical servers.
  Refer to "5.3.7 Physical Server Backup and Restore" for information on backup and restore.

- **Setting** button: Setup firewall
  This button is displayed for firewall.
  Refer to "5.3.8 Setup Firewall" for information on setup firewall.

- **Operation** button: Operate server load balancer (SLB)

  This is displayed for server load balancers.

  Refer to "5.3.10 Server Load Balancer (SLB) Operations" for information on operating server load balancers.

- **Operation log** button: Server load balancer (SLB) operation log

  This is displayed for server load balancers.

  Refer to "5.3.11 Server Load Balancer (SLB) Operation Logs" for information on server load balancer operation logs.

- **SLB settings** button: Server load balancer (SLB) settings

  This is displayed for server load balancers.

  Refer to "5.3.9 Server Load Balancer (SLB) Settings" for information on server load balancer settings.

- **Software Details** button: Display software information

- **Initial PWD** button: Confirm the initial password

  Depending on the L-Platform settings, the "Initial password" is " ". Sometimes it is displayed as ".

  The initial password is set after L-Platform deployment.

- **Add Patch Information** button: Register the patch information

  Refer to "5.3.5 Manage Patch Information" for information on registering patch information.

- **Delete Patch Information** button: Delete the patch information

  Refer to "5.3.5 Manage Patch Information" for information on deleting the patch information.

🛈 Note

If 'start all' or 'stop all' button is clicked while another user is reconfiguring the L-Platform, the start or stop operation fails with the error code VSYS10051.

If this error occurs when no user is reconfiguring the L-Platform, perform the following operation before starting or stopping all servers.

1. Click the Reconfigure button on the L-Platform Details page.

2. After the following message is displayed, click the 'Obtain the lock on a mandatory basis' button, and then cancel the reconfiguration.

```
The L-Platform is locked by another user.
After obtaining the lock on a mandatory basis, the operation can be continued.
```

5.3.3 Display Details on a Disk

Follow the steps below to display the details of a disk located on the virtual server:

1. Display the **L-Platform Details** page.

   Refer to "5.3.2 L-Platform Detailed Information Display" for information on how to display the page.

2. After selecting the virtual server to which the disk is added, select the target disk from the menu.
   The details of the disk will be displayed on the **L-Platform Details** page.
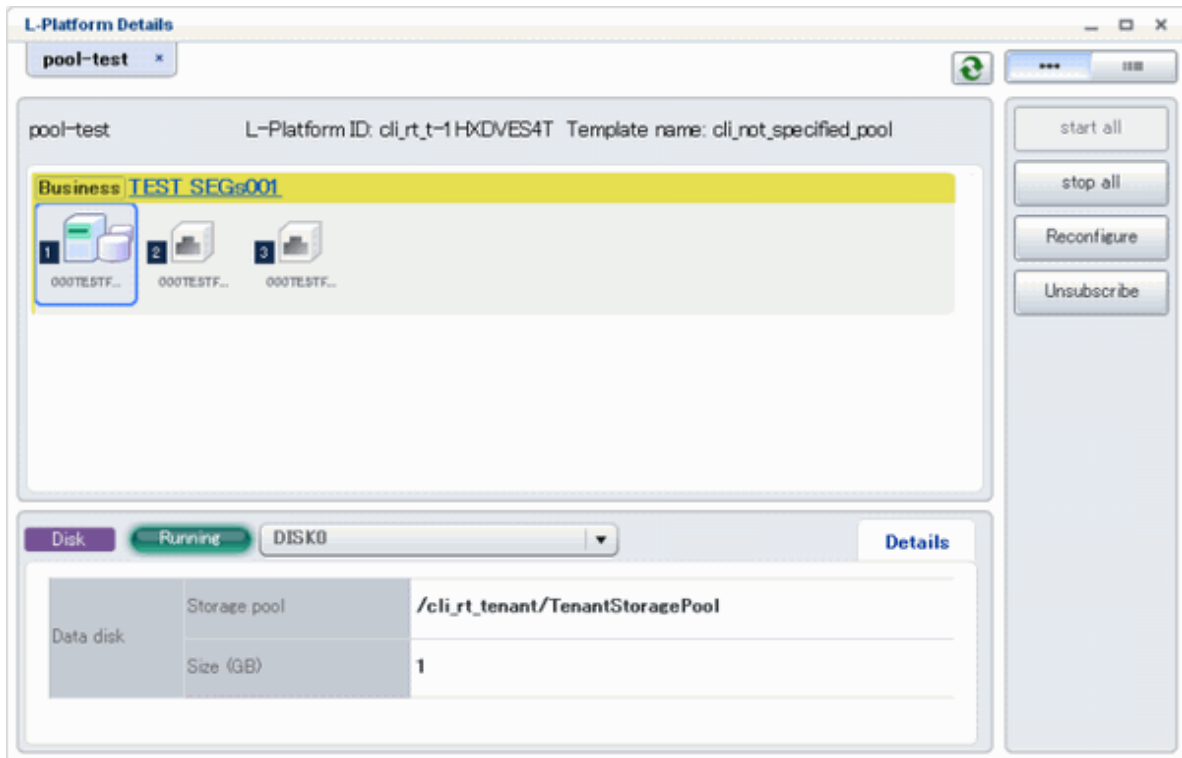
P **Point**

The following buttons can be used on the **L-Platform Details** page displaying the details of the disk.

- **Reconfigure** button: Modify an L-Platform template
  Refer to "5.3.12 L-Platform Reconfiguration" for information on modifying an L-Platform template.

- **Unsubscribe** button: Cancel an L-Platform
  Refer to "5.3.13 Cancel an L-Platform" for information on canceling an L-Platform.

5.3.4 Start and Stop the Server

Follow the steps below to start or stop a server:

1. Display the **Server List** page.
   Refer to "5.3.1 L-Platform Management Display Page" for information on how to display the page.
   Alternatively, display the **L-Platform Details** page.
   Refer to "5.3.2 L-Platform Detailed Information Display" for information on how to display the page.

2. After selecting a required server, click the **ON** button to start it or the **OFF** button to stop it.

Note **Note**

Even if the server is stopped using the **OFF** button, sometimes the server may not stop, due to a problem with the server. In this case, the **ON** button and **OFF** button act as Forced stop buttons. When a **Forced stop** button is clicked, the server will stop forcibly.

The **Forced stop** button is designed to shut down the power to the server.
Therefore, the recommendations for virtual servers is to use remote desktop connection to connect to the virtual server, and then to shut down the operating system.
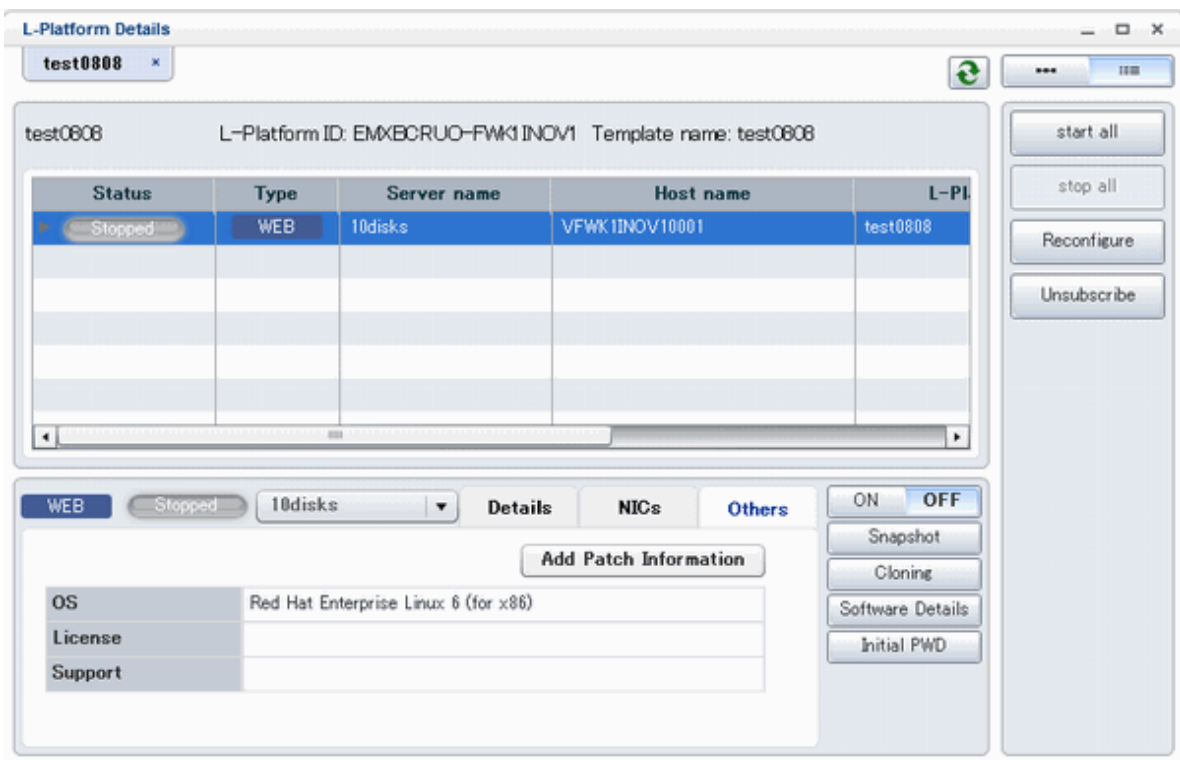
5.3.5 Manage Patch Information

Patch information can be managed after it is applied to or deleted from a server that has been deployed.

Register Patch Information

Follow the steps below to register patch information:

1. Display the **L-Platform Details** page.
   Refer to "5.3.2 L-Platform Detailed Information Display" for information on how to display the page.

2. After selecting the required server, select the **Others** tab.
   The following page will be displayed if the patch information has not been registered.

3. Click the **Add Patch Information** button.
   The **Add Patch Information** page will be displayed.

Item	Description
Patch ID	Specify the patch ID that has been applied. The patch ID must be no more than 32 bytes of alpha-numeric one-byte characters.
Component name	Specify the name of the component where the patch is to be applied. The name must be no more than 85 characters long and not include the following characters: `<, >, &, ', " and control characters`
Description	Specify the description related to the patch information that has been applied. The description must be no more than 85 characters long and not include the following characters: `<, >, &, ', " and control characters`

4. Enter the required fields and click the **OK** button.

Delete Patch Information

Follow the steps below to delete patch information that has been registered:

1. After selecting the required server on the **L-Platform Details** page, select the **Others** tab.

2. Click the **Delete patch information** button of the patch information to be deleted.
   A message confirming the deletion will be displayed. Click the **OK** button.

5.3.6 Take and Restore Snapshot

Using the **Snapshot** page, snapshots can be taken and restored for the virtual server.

To take the restore them, the target virtual server must be inactive.
Snapshot is managed by the generation. Snapshots of older generations will be deleted if snapshots that are older than three generations are to be taken.
Contact the system administrator if it is necessary to take snapshots over 4 or more generations.

![Note icon] **Note**

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- The function for taking and restoring snapshots is supported if the virtualization software is either VMware or Hyper-V. If the virtualization software is RHEL-KVM, there is no function for taking and restoring snapshots.
  Also, there is no function for taking and restoring snapshots for Solaris container management servers.

- The server will enter an error state if an error occurs while taking or restoring snapshots.
  When this occurs, a character string "Error" and **x** button will be displayed on the **Snapshot** column of the relevant row on the **Server List** page. To clear the error state, click the **X** button.

- The backup products that support the virtual server backup operations located on the virtualization software must be used to back up the virtual server to a disk or tape device that is not the disk device the virtual server is running on.

- NICs cannot be added to or deleted from a server that has snapshots. When adding or deleting NICs, delete all snapshots of the server beforehand.

- Even if a created snapshot is not deleted, contact the System Administrator if it is not displayed in the Snapshot window.

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Take Snapshots

Follow the steps below to take snapshots:

1. Display the **Server List** page.
   Refer to "5.3.1 L-Platform Management Display Page" for information on how to display the page.
   Alternatively, display the **L-Platform Details** page.
   Refer to "5.3.2 L-Platform Detailed Information Display" for information on how to display the page.

2. After selecting a required server, click the **Snapshot** button.
   The **Snapshot** page will be displayed.

3. Click the Start to **Take Snapshot** button.

4. A pop-up window will be displayed. Enter a comment of less than 128 characters.
   This will display the comment entered on the snapshot list.

5. Click the **Take Snapshot** button to start taking the snapshot.

Restore Snapshots

Follow the steps below to restore the taken snapshots:

1. Select the required snapshot from the snapshot list on the **Snapshot** page.

2. When the **Restore** button is clicked, the restore processing of the snapshot will start.

5.3.7 Physical Server Backup and Restore

The Backup page can be used to back up and restore a physical server.

The target physical server must be running before performing backup and restore.
Backup is managed by the generation. Backups of older generations will be deleted if snapshots that are older than three generations are to be taken.
Contact the system administrator if it is necessary to take backups over 4 or more generations.

Backup

Follow the steps below to backup:

1. Display the **Server List** page.
   Refer to "5.3.1 L-Platform Management Display Page" for information on how to display the page.
   Alternatively, display the **L-Platform Details** page.
   Refer to "5.3.2 L-Platform Detailed Information Display" for information on how to display the page.

2. After selecting a required server, click the **Backup** button,
   The **Backup** page will be displayed.

3. Click the **Take Backup** button.

4. A pop-up window will be displayed. Enter a comment of less than 128 characters.
   This will display the comment entered on the backup list.

5. Click the **Take Backup** button to start backup.

Restore

Perform the following operations to restore a backed up server:

1. In the backup list in the Backup page, select the target backup.

2. Click the **Restore** button to start the restore.

5.3.8 Setup Firewall

Change the firewall settings.

The firewall ruleset parameter values can be changed in the firewall settings.

Perform the following steps to change the firewall settings:

1. Display the **L-Platform Details** page

   Refer to "" for the display method.

2. Select the firewall, and then click the **Setting** button.

3. **Firewall** page is displayed.

   - Selected ruleset: Displays the ruleset names.

   - Description: Displays the ruleset descriptions.

   - Segment/Server: The names of the segments or servers where the parameters are enabled are displayed. "-" is displayed for parameters are unrelated to the segment or server.

   - Parameter: Displays the parameter names.

   - Description: Displays an explanation of the parameter

   - Value: Enter the value to be set for the parameter

   - Description of the selected parameter: The description of the parameter in the row being pointed at is displayed.
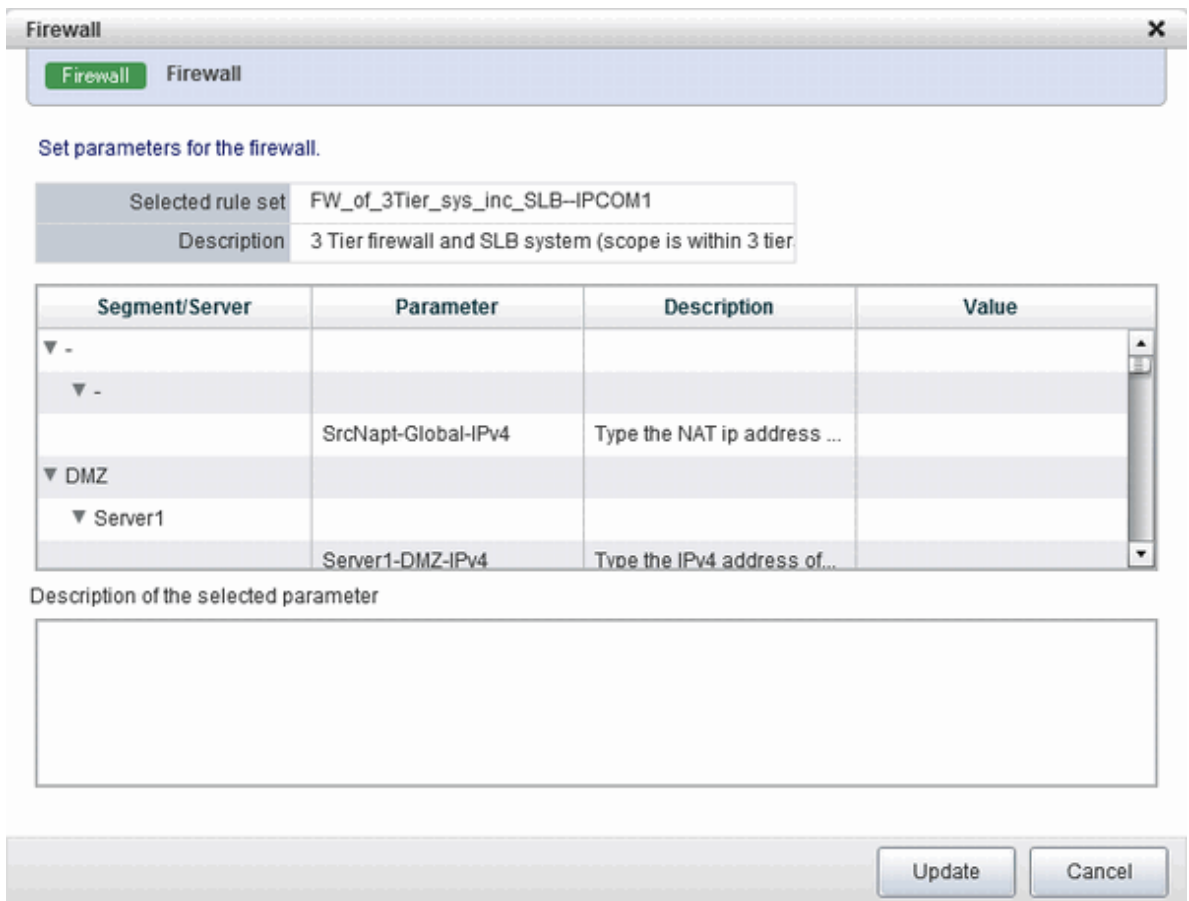
4. When the **Update** button is clicked, a confirmation message is displayed.
   Click the **OK** button to save and apply the firewall settings.

Point

. . . .

Firewall settings cannot be set by L-Platform subscription or L-Platform reconfiguration.

After an L-Platform is deployed, check the IP addresses of the servers included in the L-Platform and the port numbers used by the installed middleware. Then, set the allowed IP addresses and port numbers in the relevant ruleset parameters in the firewall settings.

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5.3.9 Server Load Balancer (SLB) Settings

This section describes the settings for the server load balancer (SLB).

The parameter values of server load balancer rulesets can be changed in the server load balancer settings.

Server load balancer settings are changed as follows:

1. Display the **L-Platform Details** page.

   Refer to "5.3.2 L-Platform Detailed Information Display" for the display method.

2. After selecting a server load balancer (SLB), click **SLB settings**.

3. **SLB settings** page is displayed.

   - Selected ruleset: Displays the ruleset names.

   - Description: Displays the ruleset descriptions.

   - **SLB** tab: Parameters that are unrelated to the server are displayed. The following items are displayed:

      - Parameter: Displays the parameter labels.

      - Description: Displays the parameter descriptions.

      - Value: Enter the value to be set for the parameter.

      - Description of the selected parameter: The description of the parameter in the row being pointed at is displayed.

   - **Server** tab: Parameters that are related to the server are displayed. The following items are displayed:

      - Server: The names of the servers where the parameters are enabled are displayed. "-" is displayed for parameters unrelated to the server.

      - Parameter: Displays the parameter labels.

- Description: Displays the parameter descriptions.

- Setting value: Enter the value to be set for the parameter.

- Parameter descriptions: The description of the parameter in the row being pointed at is displayed.

4. When **Update** button is clicked, a confirmation message is displayed.
   Click **Yes** to start the server load balancer settings.

P Point

- Server load balancer settings cannot be changed in L-Platform subscriptions or when modifying the L-Platform configuration.

- Specify the server load balancer settings after deploying the L-Platform and before operating the server load balancer.

- Specify the IP address advised by the tenant administrator for the virtual IP address used when setting the server load balancer. Also check with the tenant administrator if you do not know any of the other values to be specified.

Note

The parameters and operations available depend on the device and rulesets.

5.3.10 Server Load Balancer (SLB) Operations

This section describes server load balancer operations.

Operations on server load balancers, such as including a server in an L-Platform as a target of load balancing, or removing it as a target, are performed by specifying rulesets and parameters prepared for operations.

Operate the server load balancer as follows:

1. Display the **L-Platform Details** page.

   Refer to "5.3.2 L-Platform Detailed Information Display" for the display method.

2. After selecting a server load balancer (SLB), click **Operation**

   Select a rule set page in **Operation** window is displayed.

3. Select the ruleset used in the operation in the **Select a rule set** page.
   The rulesets for operating the target server load balancer are displayed in the **Select a rule set** page. In the ruleset description section in the lower part of the window, the description of the ruleset in the row being pointed at is displayed.
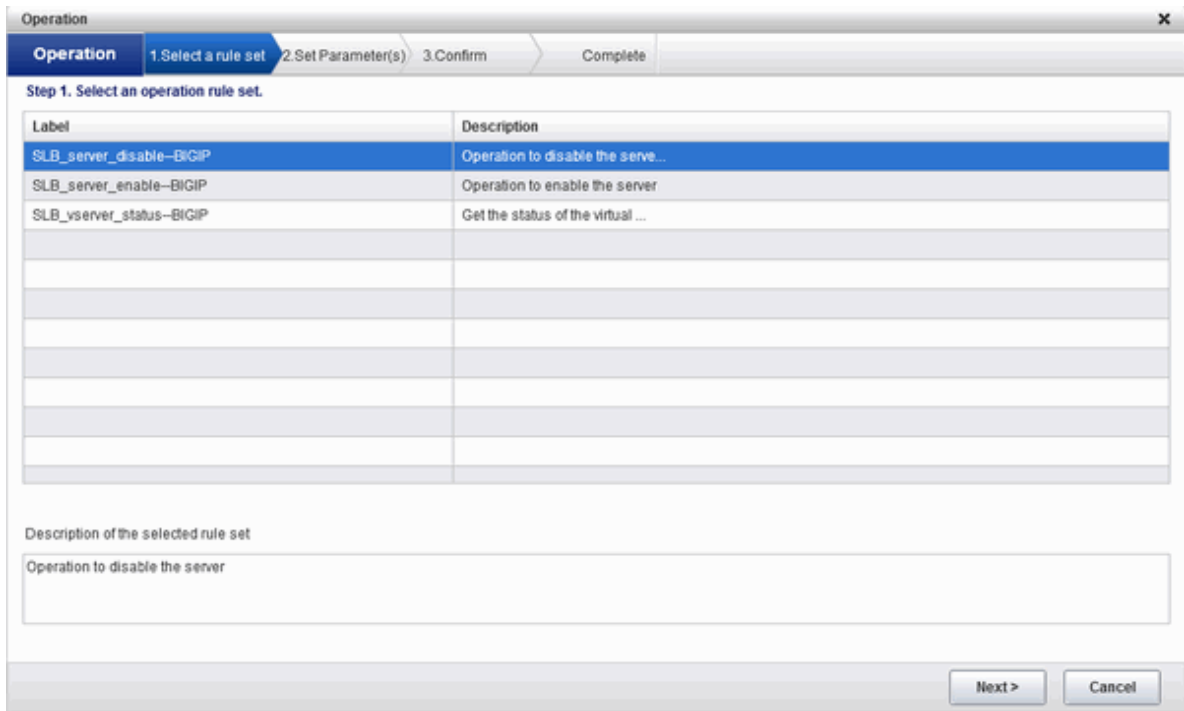
4. Select the ruleset to be used and click the **Next** button.
   The **Set Parameter(s)** page is displayed.
   Specify the parameters for operation corresponding to the ruleset in the **Set Parameter(s)** page. No information for parameters is displayed if there are no parameters.

   - Selected ruleset: The name of the ruleset selected in the **Select a rule set** page is displayed.

   - Description: Displays a description of the selected ruleset.

   - Parameters

       - Parameter: The labels of the parameters for operation are displayed.

       - Description: Displays the parameter descriptions.

       - Value: Enter the value to be set for the parameter.

- Description of the selected parameter: The description of the parameter in the row being pointed at is displayed.
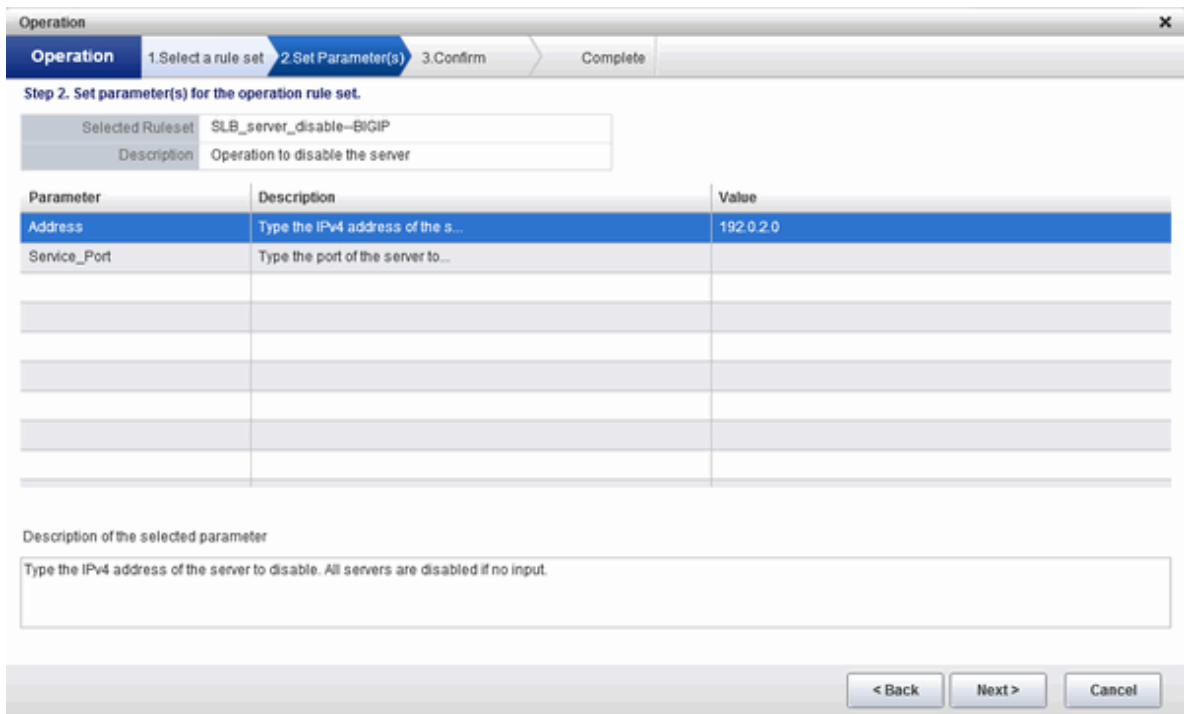
5. Once the parameter settings are complete, click the **Next** button.
   The **Confirm** page will be displayed.
   The values of the changed items are displayed in red. The value before the change is displayed as "changed from *the old value*".
   In the parameter description section in the lower part of the window, the description of the parameter in the row being pointed at is displayed.

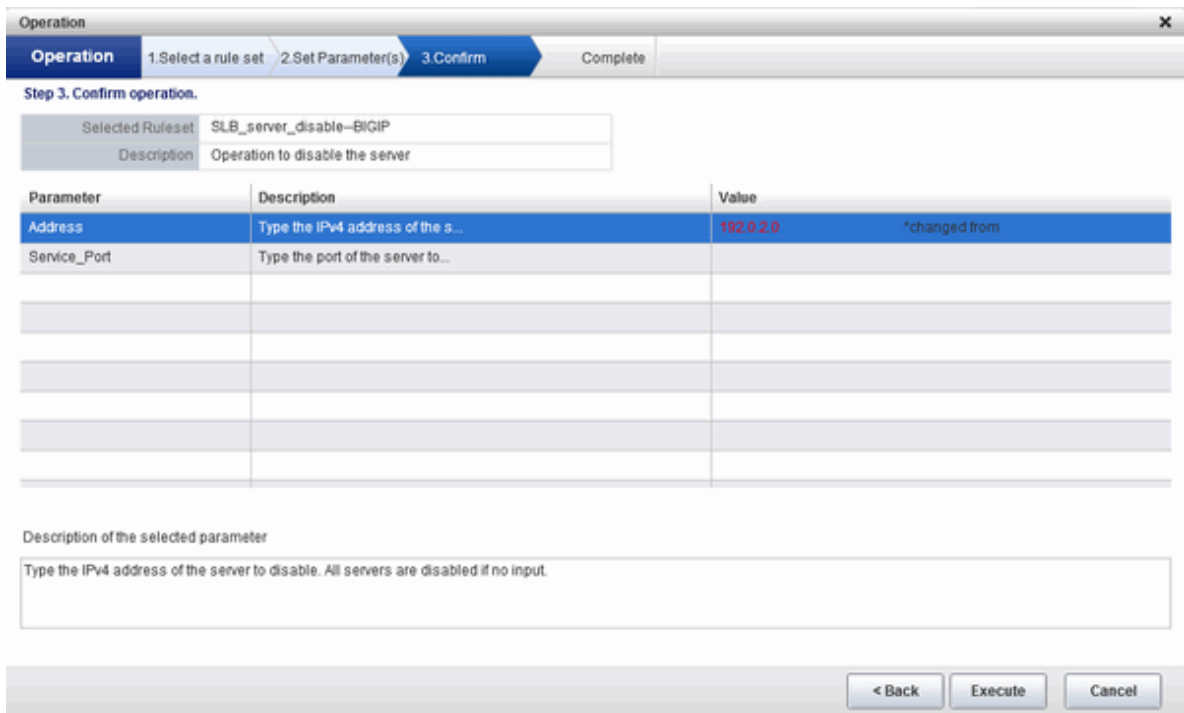6. Confirm the values of the parameters displayed and click **Execute** button.

   The **Complete** page is displayed.

7. To confirm the results of the operation, click **Open Operation log**, or if you want to check the log later, click **Close** button.

Point

Also check with the tenant administrator if you do not understand the rulesets used when operating server load balancers, or do not know the values to be specified in the ruleset parameters.

Note

- Refer to "5.3.9 Server Load Balancer (SLB) Settings" and setup the server load balance after the L-Platform is deployed. Operation will fail if you try to operate the L-Platform without setting the server load balancer.

- **Operation** cannot be performed on a server load balancer when a server load balancer operation is executing.

- Confirm the results of server load balancer operations in the 5.3.11 Server Load Balancer (SLB) Operation Logs. If you do not check the operation logs after executing server load balancer operations, the results of previous operations will not longer be available when you next execute an operation.

- The parameters and operations available depend on the device and rulesets.

5.3.11 Server Load Balancer (SLB) Operation Logs

This section describes server load balancer operation logs.

The results of server load balancer operations can be checked by displaying the server load balancer operation logs.

Display the operation logs for the server load balancer as follows:

1. Display the **L-Platform Details** page.

   Refer to "5.3.2 L-Platform Detailed Information Display" for the display method.

2. After selecting a server load balancer (SLB), click **Operation log** button.

   The **Operation log** page is displayed.

   This will be empty if there are no operation logs.

   The message "Obtaining the operation log" is displayed when an operation is not yet complete.

   The **Reload** button is enabled when a new operation is performed after displaying the operation log. Click **Reload** button to display the latest operation log.

3. When you have finished checking the results of the operation, click **Close** to close the **Operation log** page.

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Check with the tenant administrator if you do not understand the content of the operation logs.

5.3.12 L-Platform Reconfiguration

The system configuration that configures the L-Platform in use can be modified on the **Reconfigure** page.

Note

- **Reconfigure** page allows the configuration of the L-Platform to be modified. However, this may only be used when modifications to the configuration of the L-Platform template have been allowed by the infrastructure administrator.

- When reconfiguring a deployed server, the items that can be changed depend on the type and the power status of the server.

  [Virtual server]

- The server is not running

  Items other than the following can be changed:

    - Host name

    - Storage pool

    - VM pool

    - Storage pool and disk capacity of the system disk

    - Storage pool and disk capacity of the deployed data disk

    - IP address

- The server is running

  The following items can be changed:

    - Change the system name

    - Change the server name

    - Change the disk name

    - Add a server

    - Add a disk

    - Setting the startup priority level

    - Change the segment name

      Along with these, there are items that can be modified depending on the type of virtualization software. Details are shown below. However, refer to "NIC Add and Delete" for information on adding and deleting NICs.

Item name	Change type	Virtualization software			
		VMware	Hyper-V	RHEL-KVM	Solaris container
Number of CPUs	Add	Y	N	N	Y
	Reduce	N	N	N	Y
CPU Performance	Add	Y	Y	Y	Y
	Reduce	Y	Y	Y	Y
CPU Reserved	Add	Y	Y	-	-
	Reduce	Y	Y	-	-
[VMware] CPU Shares [Hyper-V] CPU Weight	Add	Y	Y	-	-
	Reduce	Y	Y	-	-
Memory Size	Add	Y	N	Y	Y
	Reduce	N	N	Y	Y
[VMware] Memory Reserved [Hyper-V] Memory RAM	Add	Y	N	-	-
	Reduce	Y	N	-	-
[VMware] Memory Shares [Hyper-V] Memory Weight	Add	Y	Y	-	-
	Reduce	Y	Y	-	-
Server Type	Modify	Y	Y	Y	Y

Y: Can be changed when the server is running

N: Cannot be changed when the server is running

- : No item or cannot be specified

If Server Type is changed, the following items are changed at the same time:

- Heartbeat

- Redundancy

- Automatic server release

[Physical server]

Regardless of the power status, only the following items can be changed.

- Server name

- Server type

- Boot priority

- Segment name

- Regardless of whether or not an L-Platform reconfiguration completion notification email is received, check with the Infrastructure Administrator if an L-Platform is not changed. In this case, the change processing may have failed at the virtual server.

- Be aware of the following points for Solaris container management servers:

  - It may not be possible to get server CPU performance, the number of CPUs, and memory size. "-" is displayed if this is the case.

  - The following operations are not possible:

    - Changes to NIC configuration

    - Addition of disks

    - Disk size changes

  - If the resource pool where the server is operating is not being managed by this product, it is not possible to change the number of CPUs, CPU performance, memory size, server name, or boot priority when changing configuration after deployment.

  - If the resource pool where the server is operating is not being managed by this product, redundancy and automatic server release will not be changed even if the server type is changed.

The number of CPUs and CPU performance may be different to the values allocated when the subscription was made. In this case, the number of CPUs and the CPU performance are adjusted so that the number of CPUs times the CPU performance becomes the same value.

- If Server Type is changed, the following items are changed at the same time.

  - Number of CPUs

  - CPU Performance

  - CPU Reserved

  - CPU Shares/ CPU Weight

  - Memory Size

  - Memory Reserved/Memory RAM

  - Memory Shares/ Memory Weight

  - Heartbeat

  - Redundancy

  - Automatic server release

When changing only Redundancy, Heartbeat, or Automatic server release, set the CPU and memory items back to their previous values after changing Server Type.

- Server load balancers (SLB) cannot be added or deleted by changing the L-Platform configuration.

- If the number of NICs is increased, IP addresses will not be automatically set on the guest OS. After increasing the number of NICs, log into the guest OS and manually set the IP address displayed in the L-Platform management window.
  After setting the IP address, check that the added NIC can communicate properly with other devices.
  If two or more NICs are being added, it is recommended to add one by one.
  If two or more NICs have been added at the same time, set the IP address of each added NIC correctly by setting the IP address and checking the communication for one NIC at a time.

- If a NIC being deleted has been configured on the guest OS, the deletion operation on the L-Platform tab does not delete the configuration from the guest OS.
  Delete the configuration of the NIC from the guest OS before the operation.

- When the NIC used to connect to the guest OS is deleted, it will no longer be possible to connect to the guest OS. When deleting the NIC used to connect to the guest OS, first add an NIC to take over the connection to the guest OS and confirm the connection, then delete the NIC.

- NICs cannot be added to or deleted from a server that has snapshots. When adding or deleting NICs, delete all snapshots of the server beforehand.

Follow the steps below to modify the system configuration that configures the L-Platform in use:

1. Display the **L-Platform Details** page.
   Refer to "5.3.2 L-Platform Detailed Information Display" for information on how to display the page.

2. Click the **Reconfigure** button and display the **Reconfigure** page.

3. Modify the system configuration as required on the **Reconfigure** page.

   Usage fees corresponding to the system reconfiguration will be displayed in the top-right of the window.

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Estimated charges for the L-Platform will only be displayed when the usage fees display is set to enabled.
The displayed usage fees will be calculated according to current prices, and not according to prices at the time of deployment.

Note

The size and pool cannot be changed for system disks and extended disks that have already been deployed. If a cloning image associated with the image information includes a data disk, changes to the number of disks cannot be made until deployment is complete.

4. When the L-Platform is modified, click the **Next** button.
   The **Confirm** page will be displayed.

   The difference between the old L-Platform and the new L-Platform is displayed as follows:

Item	Display format
Item changed	The values of the changed items are displayed in red. The old value is displayed as "Changed from *the old value*".
Item added	"*Added" is displayed after items that have been added. The values of the added items are displayed in red. The background of the added item is displayed in red.
Item deleted	"*Deleted" is displayed after items that have been deleted. The background of the deleted item is displayed in gray.

CSV output

When the **Save as CSV** button is clicked, the **Select the destination to save** window is displayed where the L-Platform template can be saved as a CSV file.
The default CSV file name format is shown below. This file name can be modified as necessary.

```
SystemConfiguration (+ <L-Platform name> +)_ <date> + .csv
```

Save specification

Click the **Save Configuration** button to save the L-Platform configuration, and the display returns to the **Management** page.

When the L-Platform template is saved, an icon ( ) will be displayed after the L-Platform template name.

5. Check the displayed contents of the L-Platform configuration, and click the **Next** button.
   The **Agreement** page will be displayed.

6. Check the license agreement displayed. Select the **Agree the license** check box, and then, click the **Reconfigure** button.

When the application process is enabled, clicking of the **Reconfigure** button on the **Agreement** page displays the **Forward screen** window. Refer to "5.5 Select Forward Destination of Application Process" for details.

The **Complete** page will be displayed when an application for modification of an L-Platform is accepted.

- When the application process is disabled

  The following message will be displayed:
  "The request to reconfigure the L-Platform has been completed. The reconfiguration takes some time to complete."

- When the application process is enabled

  The following message will be displayed:
  "The request to reconfigure the L-Platform has been completed. The L-Platform will be reconfigured after approval and/or judgement procedures."

When an L-Platform is changed, an L-Platform reconfiguration completion notification email is sent to the subscriber.

If an L-Platform change fails, an L-Platform reconfiguration failure notification email is sent to the subscriber and the Infrastructure Administrator. In this case, check with the Infrastructure Administrator about the action required.

5.3.13 Cancel an L-Platform

Follow the steps below to cancel an L-Platform:

1. Display the **L-Platform Details** page.
   Refer to "5.3.2 L-Platform Detailed Information Display" for information on how to display the page.

2. Stop all the servers of the system that configures the L-Platform to be canceled.
   Refer to "5.3.4 Start and Stop the Server" on information on how to stop a server.

3. Click the **Unsubscribe** button.
   The **Confirm** page will be displayed.

4. Confirm that the correct L-Platform is being canceled, and click the **Next** button.
   The **Agreement** page will be displayed.

5. Select the **Agree the license** check box to cancel the subscription, and click the **Unsubscribe** button.

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When the application process is enabled, clicking of the **Unsubscribe** button on the **Unsubscribe** page displays the **Forward screen** window. Refer to "5.5 Select Forward Destination of Application Process " for details.

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The **Complete** page will be displayed when the L-Platform is canceled.

- When the application process is disabled

  The following message will be displayed.
  "The L-Platform has been unsubscribed."

- When the application process is enabled

  The following message will be displayed.
  "The L-Platform to unsubscribe the L-Platform has been completed. The L-Platform will undeploy after approval and/or judgement procedures."

Note

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When the following events occur, cancellation application may become impossible.

Notify the Infrastructure Administrator of the content displayed on the window.

- The pop-up blocker has been enabled and the 'Forward screen' window is not displayed.

- An error message is displayed on the 'Forward screen' window.

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When an L-Platform is cancelled, a cancellation completion notification email is sent to the subscriber.
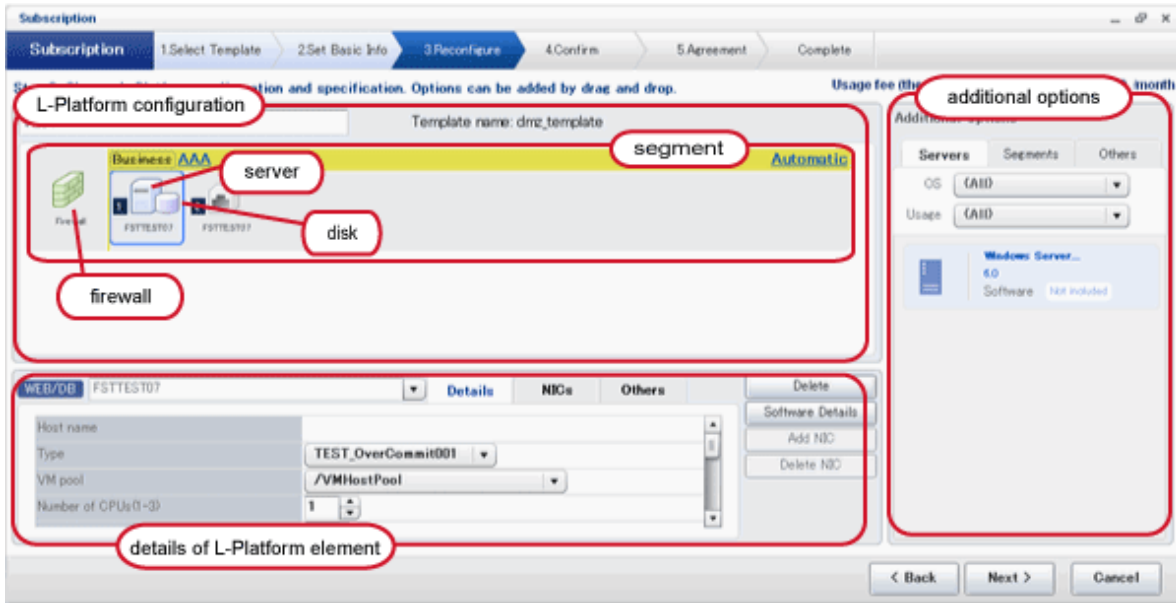
If an L-Platform cancellation fails, a cancellation failure notification email is sent to the subscriber and the Infrastructure Administrator. In this case, check with the Infrastructure Administrator about the action required.

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5.3.14 Reconfiguration Page

The following configuration can be defined on the **Reconfigure** page.

- Segment: Represents a network segment located on the L-Platform

- Virtual server: Represents a server on the L-Platform

- Physical server: Represents a physical server.

- Disk: Represents an extended disk that is not a system disk but can be added to the virtual server or physical server.

An example of the **Reconfigure** page display is shown below.

The configuration of the **Reconfigure** page is shown below:

Part	Description
L-Platform configuration	Located on the top of the page, this area expresses the L-Platform in terms of the elements of firewall, segment, virtual server, physical server and disk. When an element is selected, the element is displayed in the Details of configuration element.
Add options	Located on the right hand side of the page, this area lists the elements of, the virtual server, physical server, segment and disk that can be added to the L-Platform The listed elements can be dragged and dropped into the L-Platform using a mouse and added to the virtual system configuration as elements.
Details of L-Platform element	Located at the bottom of the page, this area allows the details of a selected L-Platform element to be edited By clicking the **Delete** button, the elements such as a virtual server or physical server or a disk can be deleted from the L-Platform. Software information can be checked in a new window by clicking the **Software details** button. Click the **Add NIC** button to add NICs. The **Add NIC** button is enabled only if NICs can be added. Click the **Delete NIC** button to delete selected NICs.

Icons displayed in the L-Platform configuration area are as follows.

Icon	Explanation
	Virtual server without data disks
	Virtual server with a single data disk
	Virtual server with multiple data disks
	Physical server without data disks

Icon	Explanation
	Physical server with a single data disk
	Physical server with multiple data disks
	NIC of a Virtual server
	NIC of a Physical server
	Grouped NICs
	Firewall
	Server Load Balancer(SLB)

Icons displayed in the L-Platform configuration area to indicate server statuses are shown below.

These are example icons for a virtual server without disks. There are corresponding icons also for a physical server and for a server with no data disk, a single data disk, and multiple data disks.

Icon	Explanation
	Stopped
	Running
	Starting, stopping, being deployed, or in a failover
	Failed to start or stop

Icons displayed in the Add options area are as follows.

Icon	Explanation
	Virtual image information without data disks
	Physical image information without data disks
	Virtual image information with data disks
	Management segment
	Business segment
	Management segment with admin LAN allocated
	Data disk

Edit the L-Platform

The L-Platform can be edited on the **Reconfigure** page.

The L-Platform name entered on the **Basic info** page can be modified.

Segments cannot be added or deleted using configuration modification on an L-Platform that has already been deployed.

To add a virtual server or physical server, a virtual server or physical server listed in **Servers** tab of **Additional options** can be dragged and dropped into the segments.

To add a disk, a disk listed in **Others** tab of **Additional options** can be dragged and dropped into the virtual server or physical server.

The types of disks that can be added are new disks and existing disks. New disks can be added to virtual servers and physical servers. Existing disks are displayed if an Infrastructure Administrator has registered them to a storage pool that can reference already created disk resources, and can be added to physical servers.

Firewall

When the firewall is selected, its ruleset can be checked. The firewall cannot be deleted.

Firewall tab

Part	Description
rule set	Displays the name of the 'ruleset' set for the firewall. The ruleset name cannot be changed.

Click **Setting** button to check the parameter values in the ruleset. The values set as the default are the values specified in the L-Platform template.

Note

- The firewall for a server added by a new L-Platform subscription or L-Platform reconfiguration is set after the L-Platform is deployed. Refer to "5.3.8 Setup Firewall" for details.

Edit a Segment

A segment can be edited by selecting the segment to be edited.

It is possible to select whether a subnet allocated to the segment can be set automatically or manually in the segment editing. Note, however, that subnets cannot be modified in the L-Platform configuration after the system has been deployed.

If the network to be connected to is specified in the L-Platform template, the specified network remains selected.

The following window displays an example of the **Reconfigure** page when a segment name is clicked. The following window shows the **Reconfigure** page used to subscribe to an L-Platform.
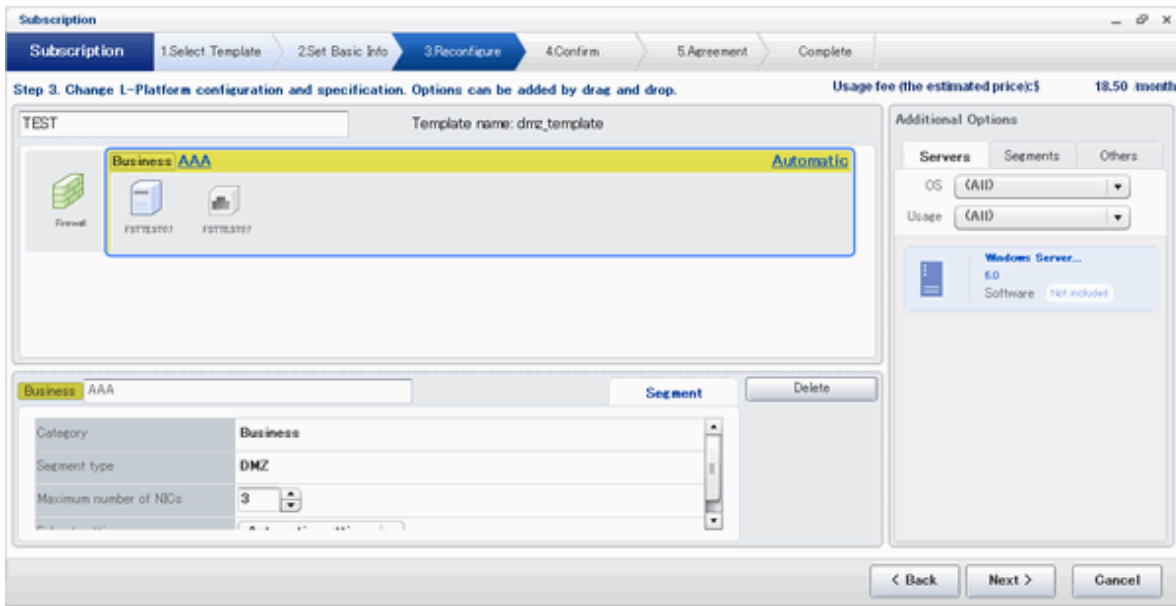
Details of configuration element Segment tab

Part	Description
Category	Specify the category when an automatically selected segment is added. The default is "Business segment". - Business segment: A segment where business servers are deployed - Management segment: A segment where servers that monitor business or similar are deployed
Segment type	Specify the segment identification information used if segments are selected automatically when additions are made by segment extension.
Maximum number of NICs	Specify the maximum number of servers that can be deployed in a segment.
Subnet setting	Specify the IP address of the deployed virtual server used if segments are selected automatically when additions are made by segment extension. The default value is "Automatic setting". - Automatic setting: Set automatically from the subnet - Manual setting: The user specifies a subnet address or selects it from a network resource list

📝 **Note**

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- If the maximum number of segments in the L-Platform template is one, the IP addresses of virtual servers being deployed can be specified in the subnet settings.

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Additional options Segment tab

Part	Description
Segment	- Extend a segment.

📝 **Note**

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Segment extension and reduction

- A network can be extended to the maximum number of segments for an L-Platform Template.

- Since at least one segment is required, it is not possible to delete all segments.

- When a segment is deleted, the connected servers and NICs are also deleted. To delete a segment and NICs except servers, delete NICs first and then delete a segment.

- A segment where there is a server load balancer cannot be deleted.

- The number of segments under firewall control cannot be changed.

- Reduction is not possible while a server is operating.

Edit a Virtual Server

By clicking a virtual server, the virtual server can be edited by selecting the tabs displayed.

Details tab

An example of the **Details** tab display is shown below.

Part	Description

Host name	Sets the virtual server name specified in the L-Platform template.
	
	"usage + (no. of servers + 1)" is set automatically for the virtual server that has been added as an option.
	To rename, the name must be no more than 85 characters long and not include the following characters:
	
	`<, >, &, ', " and control characters`
	
	However, the strings and the number of characters that can be specified may vary depending on the system settings. It is recommended that the name be specified using no more than 15 of the following characters. The value specified for this item cannot consist of only numbers. Hyphens cannot be used for the first character.
	
	`Alphanumeric characters, underscores ("_") and hyphens ("-")`
	
	A pre-existing name cannot be specified.

Type	From the drop-down menu, select the type (specifications) of the registered server. The CPU, memory size, and System Disk will be set according to the type of the server selected. The settings for the following L-Server features are also made:

Part		Description
		- Heartbeat
		- Redundancy
		- Automatic server release
		However, a message may appear indicating that the server type cannot be changed with some types of virtualization software.
VM pool		From the drop-down menu, select the resource name of the VM pool that is the server deployment destination.
		Contact the infrastructure administrator in the event that an error message is displayed indicating that no existing pool can be selected as the server deployment destination.
CPU	Number of CPUs	Set the number of CPUs of the virtual server.
		Specify the lesser of the two values: Enter either the maximum value entered for image information or enter the maximum value of the VM pool, number of cores of VM hosts with the most numbers of cores.
		A value outside the range cannot be set.
	Performance	Specify CPU performance of the virtual server in GHz.
		Specify the lesser of the two values: Enter either the maximum value entered for image information or enter the maximum value of the VM pool, value of operational frequency of VM hosts with the most value of operational frequency.
		A value outside the range cannot be set.
	Reserved	Specify the reserved CPU performance for the virtual server, in GHz. The minimum value for the reserved clock speed that is guaranteed to be allocated to the virtual server can be specified. It is not possible to specify a value that is greater than the operating clock speed. Any value outside the allowable range cannot be specified. This is not displayed and cannot be specified if the virtualization software is RHEL-KVM.
	[VMware] Shares [Hyper-V] Weight	Specify the relative allotment ratio for determining the allotment of memory size when multiple virtual machines are competing for memory resources. Specify an integer up to 1,000,000.
		If the reconfiguration simplification function is disabled and the easy selection method is set, set values are as follows:
		- Low (500)
		- Standard (1,000)
		- High (2,000)
		This is not displayed and cannot be specified if the virtualization software is RHEL-KVM.
Memory	Size	Specify the memory size of the virtual server in GB.
		Specify the lesser of the two values: Enter either the maximum value entered for image information or enter the maximum value of the VM pool, free memory size of VM hosts with the most free memory size.
		A value outside the range cannot be set.
	[VMware] Reserved [Hyper-V] RAM	Specify the reserved memory size for the virtual server, in GB. The minimum value for the reserved memory size that is guaranteed to be allocated to the virtual server can be specified. It is not possible to specify a value that is greater than the memory size. Any value outside the allowable range cannot be specified. This is not displayed and cannot be specified if the virtualization software is RHEL-KVM.

Part		Description

	[VMware] Shares [Hyper-V] Weight	Specify the relative allotment ratio for determining the allotment of memory size when multiple virtual machines are competing for memory resources. Specify an integer up to 1,000,000.
		
		 If the reconfiguration simplification function is disabled and the easy selection method is set, set values are as follows:
		
		   - Low (500)
		
		   - Standard (1,000)
		
		   - High (2,000)
		
		 This is not displayed and cannot be specified if the virtualization software is RHEL-KVM.

System Disk	Storage pool	From the drop-down menu, select the storage pool to be used.
	Size	The disk capacity of the virtual server is displayed in GB. The capacity of the system disk cannot be modified.
Boot priority		Sets the priority order when performing batched power supply operations in either the L-Platform or the tenant. The smaller the value, the higher the priority order. Set to 0 when power supply operations are not carried out in a single batch. Note however that this value cannot be set to 0 at the time of new deployment.

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The icons displayed in front of the virtual server names correspond to the usage of the virtual servers described in the specification.

- WEB: Web server

- AP: Application server

- DB: Database server

When a virtual server has multiple usages, an icon showing each usage separated by "/" will be displayed.
Example: WEB/AP, AP/WEB/DB etc.

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Note

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- The server type cannot be changed with some types of virtualization software.

- When the value 0 or no valid value is specified for CPU frequency, CPU reserve clock rate, memory size, or memory reserve size, it is treated as if the value 0.1 were specified. This modification is included in the changed items.

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NICs tab

An IP address to be allocated to NIC can be set using the **NICs** tab.
An IP address can be set only when "manual setting" was specified when the segment was edited for a subnet. Note, however, that a subnet cannot be modified when modifying the configuration of a system that has been deployed, and so the IP address cannot be modified either.

The following example displays the **NICs** tab. The following window shows the **Reconfigure** page used to subscribe to an L-Platform.
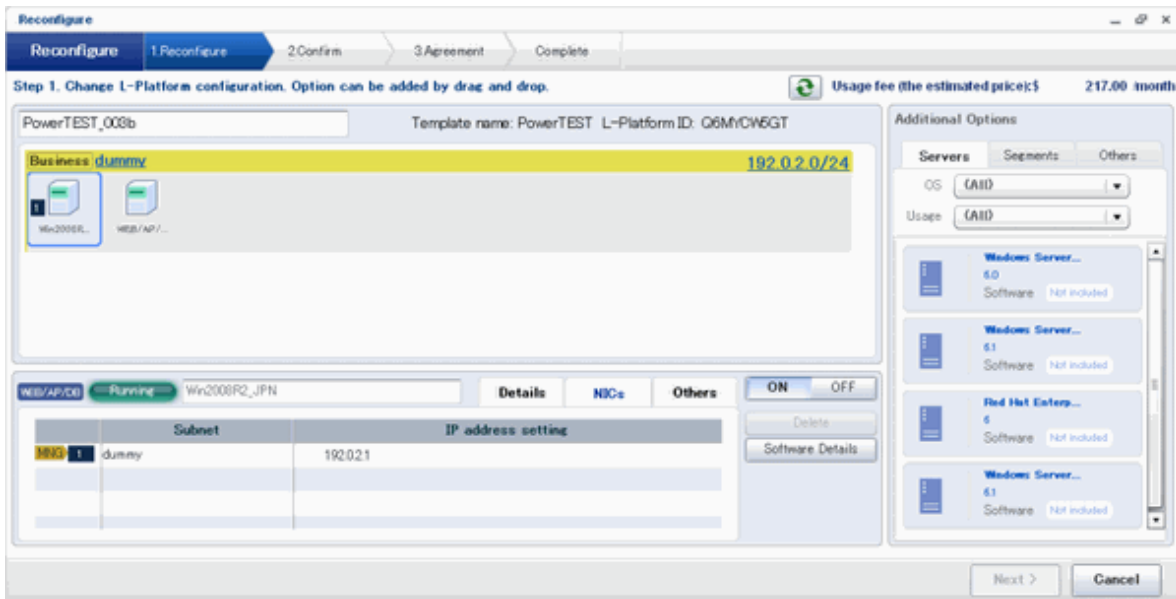
There are two ways of specifying an IP address as follows:

- Automatic
  Sets an IP address automatically from a subnet.

- Manual
  Enters an IP address directly.
  When there is a conflict between the specified IP address and network resources, an error message will be displayed.

An **MNG** icon is displayed for the control NIC.

The following window displays an example of an L-Platform where multiple NICs exist. The following window shows the **Reconfigure** page used to subscribe to an L-Platform.
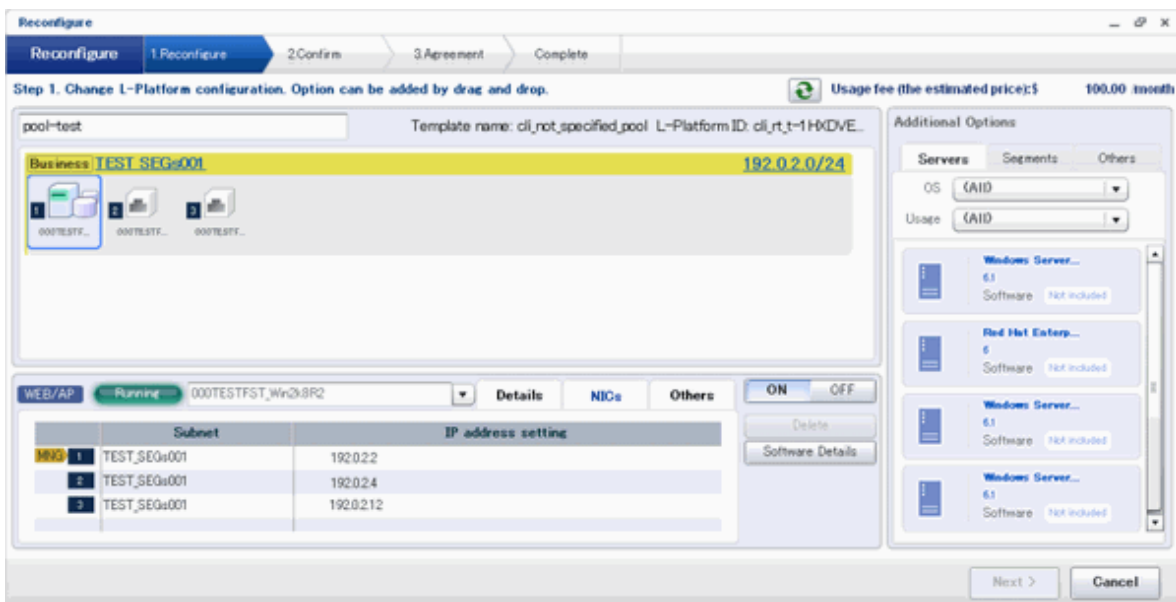
Each NIC is represented by one server. When a server is selected, the same server in each segment is selected.
When a server is selected an icon is displayed showing a number at its lower left hand corner. The number represents an NIC number.
Dark-colored servers are the NICs for administration, and light-colored servers are NICs for business.

When a server is dragged from the Add options and dropped on a segment, as many servers as the number of NICs specified for the segment in the image information are displayed.

NIC Add and Delete

This section explains NIC add and delete.

Click the **Add NIC** button to add a business NIC to the same segment as the control NIC.

Click the **Delete NIC** button deletes an NIC.

Note

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- Whether NICs can be added or deleted depends on the type of server, the type of virtualization software (for a virtual server), and the power status. Details are shown below:

Operation	Server status	VMware	Hyper-V	RHEL-KVM	Solaris container	Physical server
Add	Stop	Y	Y	Y	N	N
	Opearion	Y	N	N	N	N
Delete	Stop	Y	Y	Y	N	N
	Opearion	Y	N	N	N	N

    Y: Can add or delete

    N: Cannot add or delete

- A maximum of eight NICs can be added with Solaris container management servers.

- NICs cannot be added if they would exceed the maximum number of connections for the segment.

- Since at least one NIC is required, it is not possible to delete all NICs.

- When add or delete NICs for a physical server, configure the number of NICs after settings are made to match the number of NICs of the physical server being used.

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Others tab

The **Others** tab can be used to check the operating system installed at a virtual server, the middleware and other software, and information on the patches applied to the software.

Editing a Physical Server

When a physical server is selected, the allowed physical server depends on the displayed tab.

For a deployed physical server, only the server name, the server type, and the boot priority can be changed.

Details tab

A display example of the **Details** tab is shown below.

Part	Description

Host name	Sets the name of a physical server that is in the L-Platform Template.
	 "usage + (no. of servers + 1)" is set automatically for the physical server that has been added as an option.
	 To rename, the name must be no more than 85 characters long and not include the following characters:
	
	 `<, >, &, ', " and control characters`
	
	 However, the strings and the number of characters that can be specified may vary depending on the system settings. It is recommended that the name be specified using no more than 15 of the following characters. The value specified for this item cannot consist of only numbers. Hyphens cannot be used for the first character.
	
	 `Alphanumeric characters, underscores ("_") and hyphens ("-")`
	
	 A pre-existing name cannot be specified.

Type	From the drop-down menu, select the type (specifications) of the registered server. The CPU, memory size, and System Disk are set according to the selected server type. The settings for the following L-Server features are also made: - Heartbeat - Redundancy - Automatic server release
Server pool	From the drop-down menu, select the resource name of the server pool that is the server deployment destination.

Part		Description
		Contact the infrastructure administrator in the event that an error message is displayed indicating that no existing pool can be selected as the server deployment destination.
Reserve server pool		From the drop-down menu, select the resource name of the reserve server pool.
		Contact the infrastructure administrator in the event that an error message is displayed indicating that no existing pool can be selected as the server deployment destination.
CPU	Number of CPUs	Set the number of CPUs in the physical server. If the upper limit value recorded in the image information differs from the VM pool upper limit value (the number of cores in the VM host with the most cores), a value up to the smaller value can be set. Values outside that range cannot be set.
	performance	Specify the CPU performance of the physical server in GHz units. If the upper limit value recorded in the image information differs from the VM pool upper limit value (the frequency of the VM host with the highest frequency), a value up to the smaller value can be set. Values outside that range cannot be set.
Memory	Size	Specify the memory size of the physical server in GB units. If the upper limit value recorded in the image information differs from the VM pool upper limit value (the free size of the VM host with the largest free memory size), a value up to the smaller value can be set. Values outside that range cannot be set.
System Disk	Storage pool	From the drop-down menu, select the storage pool to be used.
	Size	The disk capacity of the physical server is displayed in GB. The capacity of the system disk cannot be modified.
Boot priority		Sets the priority order when performing batched power supply operations in either the L-Platform or the tenant. Range:1-256.The smaller the value, the higher the priority order. Set to 0 when power supply operations are not carried out in a single batch. Note however that this value cannot be set to 0 at the time of new deployment.

📌 Note

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The server pool physical server with details closest to the specified CPU and memory information is allocated.
Usage fees are calculated according to the values entered for the CPU performance and memory capacity when newly deploying a physical server. The performance of the actual server deployed will be the closest possible to the entered values. For this reason, the usage fees displayed may differ to actual charges.
Usage fees for physical servers that have already been deployed will be calculated according to the actual CPU performance and memory capacity.

. . . .

NICs tab

Use the **NICs** tab to set the IP address allocated to an NIC.
Note that the IP address can be set only if "manual setting" is specified for the subnet during segment editing. However, since the subnet cannot be changed by reconfiguration after a system is deployed, IP address changes are also not possible.

A display example of the **NICs** tab is shown below. Note that the window shown below is the L-Platform subscription **Reconfigure** page.
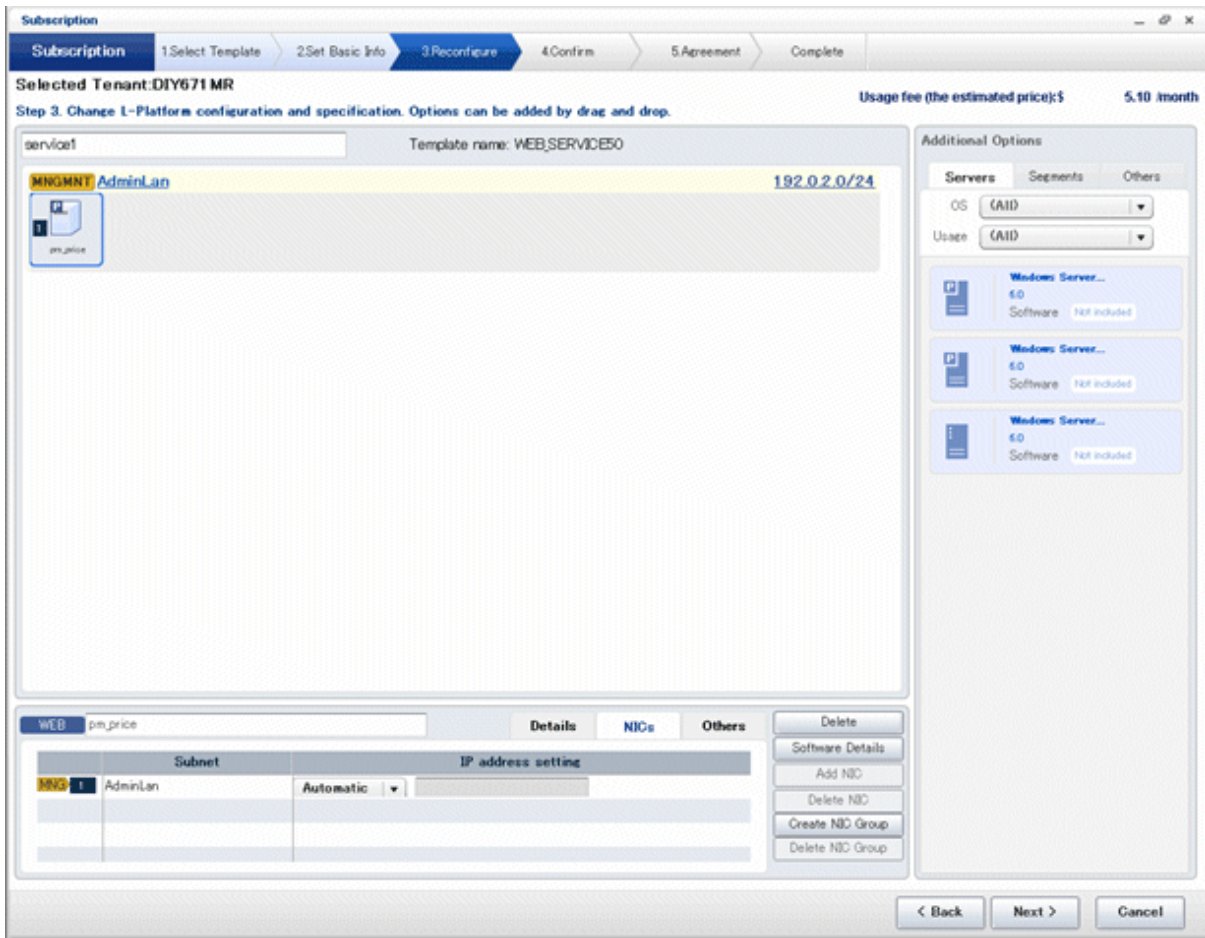
The following two methods are available for specifying an IP address:

- Automatic
  The IP address is set automatically from the subnet.

- Manual
  Enter the IP address directly.
  An error message is displayed if the specified IP address is inconsistent with the network resources.

The **MNG** icon is displayed for the control NIC.

The window below is an example of the display when there are multiple NICs. Note that the window shown below is the L-Platform subscription **Reconfigure** page.
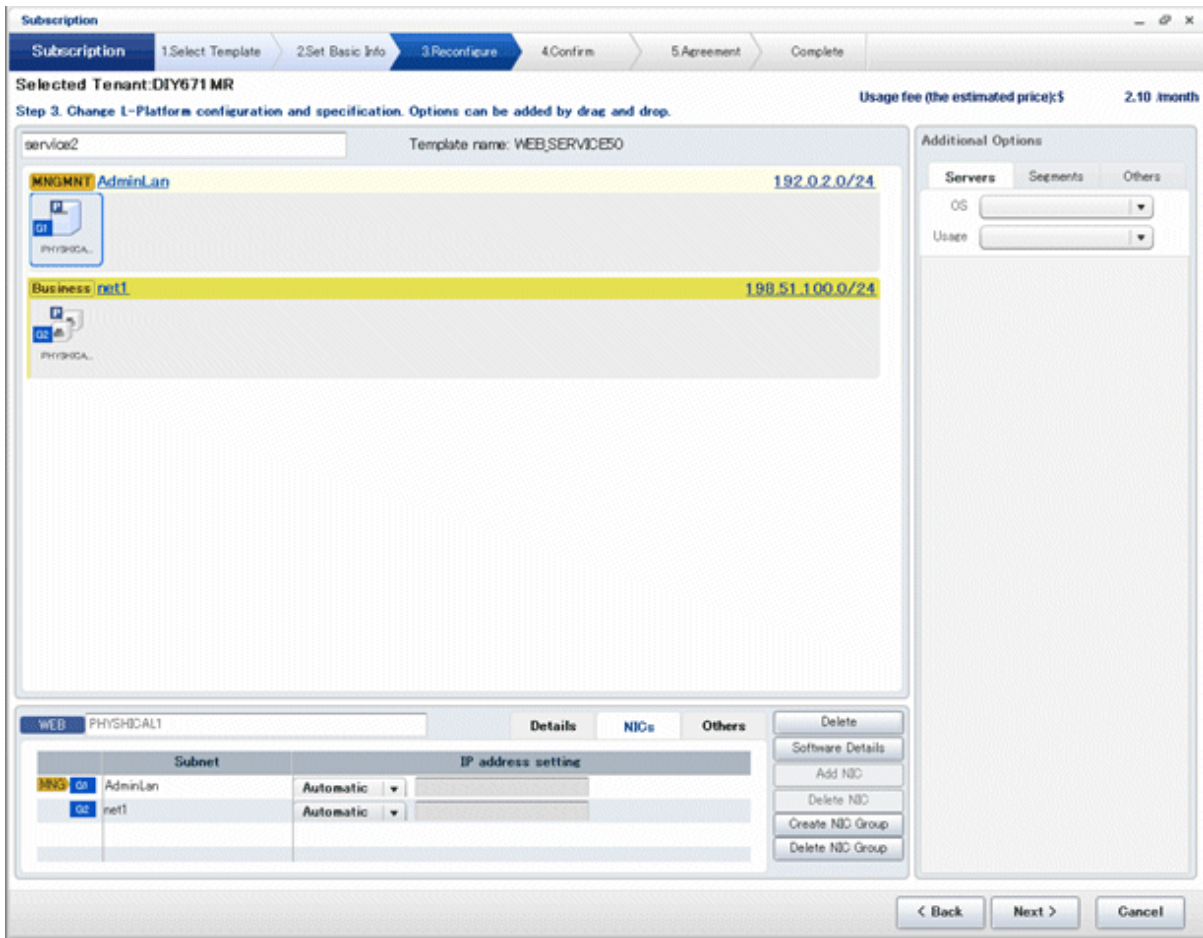
NIC1 is represented by one physical server. When a server is selected, the selected state occurs for all the same servers. A numeric icon is displayed to the bottom left of selected servers. It indicates the NIC number.

Dark-colored servers indicate management NICs, and light-colored servers indicate business NICs.

If a segment is dragged and dropped from the addition option, the number of servers displayed matches the number of NICs specified in the image information of the segment.

NIC Grouping

This function is available with physical servers only.

This section explains NIC grouping.
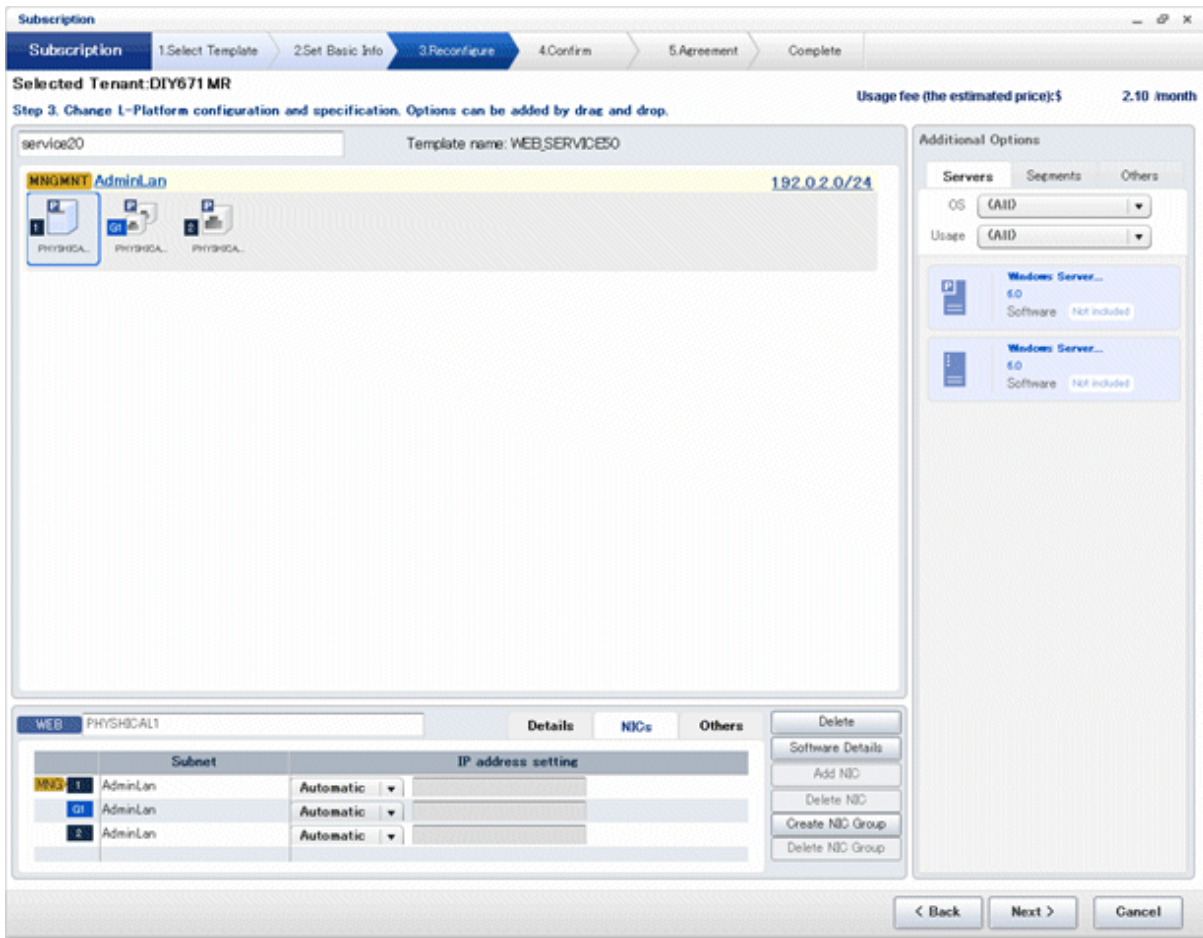
- Making a group

Select multiple checkboxes, and then click the **Form NIC Group** button. However, Multidata input NIC cannot be grouped. Groups can include control NIC.

- Cancelling a grouping

Select multiple checkboxes, and then click the **Delete NIC Group** button.

🔖 Note

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- This is possible only during L-Platform subscription. NIC groups cannot be made or cancelled after deployment.

- Two NICs can be grouped. Three or more NICs cannot be grouped.

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Others tab

The **Others** tab can be used to check the operating system installed at a physical server, the middleware and other software, and information on the patches applied to the software.

Edit a Disk (for a Virtual Server)

A virtual server to which a disk has been added can be selected. By clicking the button (▼) located to the right of the virtual server name, a selection list of virtual servers and disks is displayed. Select a disk on the list.

Only extended disks can be modified when editing a disk. System disks cannot be edited.

The following example displays the **Reconfigure** page when a disk is selected. The following window shows the **Reconfigure** page used to subscribe to an L-Platform.

Part	Description
Disk name	"disk + serial number" is set automatically as the disk name. The serial number is allocated according to the following rules. - Allocation of serial number starts from 0 for the disks registered in the L-Platform template. - "Number of disks + 1" is allocated to a disk added using Add options. To rename a disk, the new name must be no more than 85 characters long and not include the following characters: `<, >, &, ', " and control characters` A pre-existing name cannot be specified.
Storage pool	From the drop-down menu, select the deployment destination resource pool.
Size	Specify the disk capacity of the virtual server in GB. Specify the lesser of the two values: Enter either the maximum value entered for image information or enter the maximum value of the storage pool, free space size of storages with the most free space size. A value outside the range cannot be set.

📑 **Note**

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- If the virtualization software is Hyper-V, the maximum number of disks after addition is four, including the system disk.

- Only existing disks can be added or deleted if the virtualization software is RHEL-KVM. New disks cannot be added.

- Disks cannot be added to or deleted from images that include data disks.

- Disks cannot be added to or deleted with Solaris container management servers.

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Edit a disk (for a physical server)

📑 **Note**

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Disks can be added to servers that have already been deployed only by stopping the server first.

. . . .

A physical server to which a disk has been added can be selected. By clicking the button (▼) located to the right of the physical server name, a selection list of physical server and disks is displayed. Select a disk on the list.

Only extended disks can be modified when editing a disk. System disks cannot be edited.

The following example displays the **Reconfigure** page when a disk is selected. The following window shows the **Reconfigure** page used to subscribe to a service.

Part	Description
Disk name	"disk + serial number" is set automatically as the disk name. The serial number is allocated according to the following rules. - Allocation of serial number starts from 0 for the disks registered in the L-Platform template. - "Number of disks + 1" is allocated to a disk added using Add options. To rename a disk, the new name must be no more than 85 characters long and not include the following characters: `<, >, &, ', " and control characters` A pre-existing name cannot be specified.
Storage pool	From the drop-down menu, select the deployment destination resource pool.If an existing disk is selected, modification is not possible.
Size	Specify the disk capacity of the virtual server in GB. Specify the lesser of the two values: Enter either the maximum value entered for image information or enter the maximum value of the storage pool, free space size of storages with the most free space size. A value outside the range cannot be set.

Server tab

"Physical server" and "Virtual server" can be selected from **Type**, enabling only servers of the selected type to be displayed.

Server load balancer

The parameters and rulesets set in the server load balancer are displayed when a server load balancer is selected.

SLB tab

Part	Description
Deployment rule set	The names of the ruleset set in the server load balancer is displayed. The ruleset names cannot be modified.
Description	Descriptions of the ruleset for deploying server load balancer is displayed.

Click **Parameter details** button to confirm the values of the parameters set in rulesets.

If a server load balancer is defined in an L-Platform template, the default rulesets and parameter values are those specified in the L-Platform template.

Parameter details page

A list of parameters defined in the ruleset is displayed in the **Parameter details** page.

Click **Parameter details** button to display the **Parameter details** page.

Part	Description
Selected rule set	The names of the ruleset for deploying server load balancer is displayed.
Description	Descriptions of the ruleset for deploying server load balancer is displayed.

- **SLB** tab

  Parameters that are unrelated to the server are displayed:

Part	Description
Parameter	Displays the parameter labels.
Description	Displays the parameter descriptions.
Value	The value to be set for the parameter is displayed.
Description of the selected parameter	The description of the parameter in the row being pointed at is displayed.

- **Server** tab

  Parameters that are related to the server are displayed:

Part	Description
Server	The names of the servers where the parameters are enabled are displayed. "-" is displayed for parameters unrelated to the server.
Parameter	Displays the parameter labels.
Description	Displays the parameter descriptions.
Value	The value to be set for the parameter is displayed.
Description of the selected parameter	The description of the parameter in the row being pointed at is displayed.

5.4 Display Event Logs

Event logs of the errors that occurred while using the L-Platform functions can be displayed on the **Event Log** page.

Follow the steps below to display event logs:

1. Select **Event Log** from the operation menu of the **L-Platform** page.
   A list of event logs will be displayed.

Up to 100 logs are displayed on the **Event log** page for duration of up to 14 days starting from the most recent log.

Refer to "Chapter 20 Message Stating with VSYS" in "Messages" for information on the messages displayed in the event log.

5.5 Select Forward Destination of Application Process

When the application process is enabled, the forward destination of the application process must be selected to use the following functions:

- L-Platform subscription

- L-Platform reconfiguration

- Cancel L-Platform

🅿 Point
. . . .
The application process is set by the infrastructure administrator.
. . . .

📒 Note
. . . .
If the pop-up blocker is enabled and the URL of the ROR Console is not registered with the 'Address of web site to allow' list, the 'Forward screen' window will not be displayed.
. . . .

Follow the steps below to select the forward destination of the application process:

1. The **forward screen** window is displayed when an L-Platform usage application is made, an L-Platform configuration is modified, or an L-Platform is released.

Item	Description
Forward destination	Select an approver who is the forward destination of the application process. If the process has been set to require no approval, the field will be displayed in grey and cannot be selected.
Reason for application	Specify the reason for application using 100 or less characters.

2. Specify the item and click the **Forward** button.

   A message notifying the forward result will be displayed.
   When forwarding is successful, the subscriber will receive an application acceptance email.

3. Confirm the message, click the **Close** button, and close the **Forward screen** window.

📒 Note
. . . .
If an error message is displayed on the **Forward screen**, notify the infrastructure administrator of the contents displayed on the window. After closing the **Forward screen**, close the L-Platform window also.
If an error message is displayed on the forward screen when a service is subscribed to or modified, that subscription will be saved.
. . . .

🅿 Point
. . . .
Approving the application process

When an application process is forwarded, an email requesting an approval will be sent to the approver at the forward destination. An approval for the application must be obtained from the approver.

Refer to "Chapter 6 Request " for information on how to approve an application process.

If the process has not been approved, an email requesting an assessment will be sent to the infrastructure administrator.

Action when the mail is not sent

When the email is not sent to the subscriber or the approver, confirm whether the email address registered in the ROR Console is correct. If it is correct, contact the system administrator to report the user ID and the process instance name for subscription.

When the assessment request email is not sent to the infrastructure administrator, contact the system administrator to report the user ID and the process instance name.

Check the application process status

The subscriber and the approver can check the status of application process.

Refer to "Chapter 6 Request " for information on how to check the status of application process.

5.6 How to Use the L-Platform

This section explains how to use the L-Platform after it is deployed.

Based on the information below, a deployed L-Platform can be accessed using the remote desktop function.

Item	Value
IP address	1. The IP address can be confirmed using the following procedures. 2. Select **Server List** on the **Management** page of **L-Platform Management.** 3. Check IP address of the target server from the list displayed.
User ID	[Windows] Administrator [Linux] Root
Password	The initial password can be confirmed using the following procedures: 1. Select **Service List** on the **Management** page of **L-Platform Management.** 2. Select the target L-Platform and click the **Details** button. 3. Select the target virtual server from the list displayed and click the **Initial PWD** button.

Note

The initial password is already set up after the L-Platform is deployed. Be sure to change the password when the L-Platform starts to operate.

5.7 Server Load Balancer (SLB) Operation Procedure

This section describes the procedure for using an L-Platform template that includes a server load balancer (SLB).

1. Check the following two points before subscribing to an L-Platform template that includes a server load balancer. Check with the tenant administrator if there are points that need to be clarified.

   - Preparations to set the server load balancer are complete
   SLB settings are required to use the server load balancer. Check the following:

     a. You understand the meaning of the parameters set when configuring the server load balancer

     b. You know the values such as the IP address that need to be set in (a)

   - Proper preparations have been made for server load balancer operations
   Server load balancer operations are performed by configuring rulesets and the parameters in the rulesets. Check the following:

     a. You understand the rulesets for the operation of the server load balancer

b. You understand the meaning of the parameters set in (a)

c. You know the values that need to be set in (b)

2. "Subscribe to an L-Platform" including a server load balancer.

3. Refer to "Server Load Balancer (SLB) Settings" and setup the server load balancer after the L-Platform is deployed

4. Refer to "L-Platform Reconfiguration" and perform the procedures described to change the configuration of an L-Platform.

5. If necessary, use the information obtained in 1 to perform "Server Load Balancer (SLB) Operations". After executing the operation, check the "Server Load Balancer (SLB) Operation Logs"

6. Refer to "Cancel an L-Platform" and perform the procedures described to cancel an L-Platform when it becomes unnecessary.

Chapter 6 Request

This chapter explains how to operate the application list.

📗 Note

- - Application processes are determined by the Infrastructure Administrator and set by the System Administrator. The application list can be used only if an application process is set.

- - If Internet Explorer enhanced security (IE ESC) is enabled, the **X** button on popup windows does not operate correctly.
  Refer to the following website for information on how to disable Internet Explorer enhanced security:
  http://www.microsoft.com

6.1 Checking an Application Status

The application status and past application results can be checked for the following applications:

- - Subscribe L-Platform

- - L-Platform reconfiguration

- - Cancel L-Platform

Perform the following steps to check the status of an application process:

1. Select **Request** from the ROR console.

2. Select either **My Tasks** or **My Completed Tasks** from the **Task Filters** drop-down list on the My Task window.

   - - To check the status of applications in progress

     Select **My Tasks** from the **Task Filters** drop-down list on the My Task window. A list of tasks with the status **Active** will be displayed.

   - - To check past application results

     Select **My Completed Tasks** from the **Task Filters** drop-down list on the My Task window. A list of tasks with the status **Completed** will be displayed.

   The priority level of a task can be specified on the **Summary** tab under **My Tasks** using numerals from 0 to 2147483647. The default value is 8.
   The higher the number of a task, the higher its priority level. Setting the priority level of tasks also enables them to be sorted in order of priority in task lists.

3. Select the process instance task to be checked and click on the **Details** tab.

   Select the tasks with the following activity names:

   - - When checking the status of applications in progress

     - - Cancel

   - - When checking past application results

     - - Apply or cancel

4. Select the **Status** tab on the **Form** panel.

   A list of either application statuses or past application results will be displayed in chronological order.

Application results are displayed as shown in the image below. It indicates that approval was given to an application which was then dismissed upon assessment.

Item	Description	
Activity Name	The task activities will be displayed. Application, Approve, Assess, Pending or Cancel will be displayed. Approve will only be displayed when the application process is set to 'ApproverOnly', while Assess will only be displayed when the application process is set to 'JudgeOnly'.	
Status	Application	Accepted
	Approve	One of the following responses will be displayed: - Approval waiting - Approved - Approved (Error) - Rejected - _ (*1)
	Assess	One of the following responses will be displayed: - Approval waiting - Accepted - Accepted (Error) - Dismissed - _ (*1) - Blank (*2)
	Pending	One of the following responses will be displayed: - Pending - Cancel - _ (*1) - Blank (*2)
	Cancel	One of the following responses will be displayed: - Cancel

Item		Description
		- _ (*1)
		- Blank (*2)
Date		The date and time of execution will be output in the following format: YYYY-MM-DD HH:MM:SS
Responsible		Displays the executor.
Comment		Displays any comments that were input at the time of Application, Approve, Assess or Pending.

*1: Displayed when the process was not executed.

*2: Displayed when the process has not been executed.

The following illustrates an example of the application status confirmation window:

- When the application process is set to 'Default'

Indicates that the application has been accepted and the task is complete.

Activity Name	Status	Date	Responsible	Comment
Application	Accepted	2011-12-19 02:41:59	taro fujitsu	Please approve the L-Platform05
Approve	Approved	2011-12-19 02:44:17	hanako fujitsu	Approved the L-Platform05. Please assess this.
Assess	Accepted	2011-12-19 02:45:47	manage01	Assessed the L-Platform05.
Pending	_			
Cancel	_			

- When the application process is set to 'ApproverOnly'

Indicates that the application is awaiting approval.

Activity Name	Status	Date	Responsible	Comment
Application	Accepted	2011-12-19 02:13:46	taro fujitsu	Please approve the L-Platform04
Approve	Approval waiting			
Pending				
Cancel				

- When the application process is set to 'JudgeOnly'

Indicates that an error has occurred with the application during acceptance of the assessment and the task has been reserved.

Activity Name	Status	Date	Responsible	Comment
Application	Accepted	2011-12-19 02:29:31	taro fujitsu	Please assess the L-Platform05
Assess	Accepted (Error)	2011-12-19 02:34:28	manage01	
Pending	Pending			
Cancel				

6.2 Cancelling an Application

Subscribers can cancel an application that they have issued.
A subscriber is a user who issued any of the following applications:

- Subscribe use L-Platform

- L-Platform reconfiguration

- Cancel L-Platform

Perform the following steps to cancel an application process:

1. From the ROR Console, select **Request** tab.

2. In the Task Filters drop-down list on the My Tasks window, select **My Tasks**.
   A list of tasks with the status Active is displayed.
   In the **Priority** field in **My Tasks** under the **Summary** tab, give the tasks a priority using a number between 0 and 2147483647.
   The default value is 8.
   The higher the number of a task, the higher its priority level. Setting the priority level of tasks also enables them to be sorted in order of priority in task lists.

3. Select the task with the activity name "Cancel" on the process instance that you want to cancel, and then click the **Details** tab.

4. Select the **Application** tab on the **Form** panel.
   Check the content of the application.

5. Click the **0: Cancel** button on the Make Choice panel.

   The selected application process is cancelled.

Note

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- If the **0: Cancel** button on the Make Choice panel is clicked without the **Details** tab being selected or without the **Status** tab on the **Details** tab being selected, the following message is displayed:

> All the forms are not accessed in Details Tab. Do you want to continue?

To continue processing without checking the form, click the **OK** button. To check the form, click the **Cancel** button, and then select the **Details** tab or select the **Status** tab on the **Details** tab.

- When canceling applications and **Failed** is displayed as the result in the **Result Summary** window, contact the tenant administrator with the process instance name that failed and the error details and have them investigate the error and take action as necessary.
Details about the errors are displayed by clicking **Details** in the comments in the **Result Summary** window.

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Chapter 7 Account

This chapter explains account operations.

7.1 Referencing User Information

The **Account** window can be used to display the user information of logged in users. Perform the following operations to view user information.

1. Select the **Account** link on the ROR Console.
   The **Account** window is displayed in a new window.

Item	Explanation
User ID	Displays the user ID of the user
Description	Displays an explanation of the user
Role	Displays the user's role
Personal Information	
E-mail address	Displays the user's email address
Name	Displays the user's name
Company name or organization name	Displays the company name or organization name
Emergency Contact Information	
E-mail address	Displays the email address that receives emergency notifications
Telephone number	Displays the phone number for emergency contact
Modify account button	When clicked, displays the Modiry account window used to change user information
Change password button	When clicked, displays the Change password window used to change a password

2. Click the **Close** button to close the **Account** window.

7.2 Changing User Information

The **Modify account** window can be used to change the user information of a logged in user. Perform the following operations to change the user information:

1. Click the **Modify account** button on the **Account** window.
   The **Modify account** window is displayed.

2. On the **Modify account** window, edit the values of the items to be changed.

Item	Explanation
User ID	Displays the user ID of the user. This cannot be changed.
Description	Enter an explanation of the user in up to 256 characters.
Role	Displays the user's role. This cannot be changed.
Personal Information	
E-mail address	Specify the user's email address in up to 64 characters. This specification is mandatory.
Name	Specify the user's name (first name, middle name and last name) using a maximum of 15 characters for each name. This specification is mandatory, but the middle name can be omitted.
Company name or organization name	Specify the company name or organization name in up to 30 characters.
Emergency Contact Information	
E-mail address	Specify the email address that receives emergency notifications, using up to 64 characters.
Telephone number	Specify the phone number to be used for emergency contact.

3. Click the **Confirm** button.

4. The window for confirming changed content is displayed. Check the values, and then click the **Modify** button.
   To change the values again, click the **Back** button to return to the **Modify account** window.

5. Once the **Modify** button is clicked, the user information is updated and the modification completion window is displayed.

6. Click the **Back to Account** button to return to the **Account** window.

7.3 Changing Passwords

The **Change password** window can be used to change the password of a logged in user. Perform the following operations to change a password:

1. Click the **Change password** button on the **Account** window.
   The **Change password** window is displayed.

Item	Explanation
Current password	Enter the current password. This specification is mandatory.

Item	Explanation
New password	Enter the new password. Specify between 8 and 64 characters using single-byte alphanumerics and symbols. The password is case-sensitive. This specification is mandatory.
New password (confirm)	Re-enter the new password for confirmation purposes. This input is mandatory.

2. Enter the current password and the new password, and then click the **Change** button.
   The password is changed and the modification completion window is displayed.

3. Click the **Back to Account** button to return to the **Account** window.

Glossary

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access path

A logical path configured to enable access to storage volumes from servers.

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active mode

The state where a managed server is performing operations.
Managed servers must be in active mode in order to use Auto-Recovery.
Move managed servers to maintenance mode in order to perform backup or restoration of system images, or collection or deployment of cloning images.

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active server

A physical server that is currently operating.

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admin client

A terminal (PC) connected to an admin server, which is used to operate the GUI.

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admin LAN

A LAN used to manage resources from admin servers.
It connects managed servers, storage, and network devices.

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admin server

A server used to operate the manager software of Resource Orchestrator.

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affinity group

A grouping of the storage volumes allocated to servers. A function of ETERNUS.

Equivalent to the LUN mapping of EMC.

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agent

The section (program) of Resource Orchestrator that operates on managed servers.

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aggregate

A unit for managing storage created through the aggregation of a RAID group.

Aggregates can contain multiple FlexVols.

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alias name

A name set for each ETERNUS LUN to distinguish the different ETERNUS LUNs.

Auto Deploy

A function for deploying VMware ESXi 5.0 to servers using the PXE boot mechanism.

Automatic Storage Layering

A function that optimizes performance and cost by automatically rearranging data in storage units based on the frequency of access.

Auto-Recovery

A function which continues operations by automatically switching over the system image of a failed server to a spare server and restarting it in the event of server failure.
This function can be used when managed servers are in a local boot configuration, SAN boot configuration, or a configuration such as iSCSI boot where booting is performed from a disk on a network.

- When using a local boot configuration

  The system is recovered by restoring a backup of the system image of the failed server onto a spare server.

- When booting from a SAN or a disk on a LAN

  The system is restored by having the spare server inherit the system image on the storage.
  Also, when a VLAN is set for the public LAN of a managed server, the VLAN settings of adjacent LAN switches are automatically switched to those of the spare server.

backup site

An environment prepared in a different location, which is used for data recovery.

BACS (Broadcom Advanced Control Suite)

An integrated GUI application (comprised from applications such as BASP) that creates teams from multiple NICs, and provides functions such as load balancing.

Basic Mode

A function that can be used by configuring a Cloud Edition license after installing ROR VE.

BASP (Broadcom Advanced Server Program)

LAN redundancy software that creates teams of multiple NICs, and provides functions such as load balancing and failover.

blade server

A compact server device with a thin chassis that can contain multiple server blades, and has low power consumption.
As well as server blades, LAN switch blades, management blades, and other components used by multiple server blades can be mounted inside the chassis.

blade type

A server blade type.
Used to distinguish the number of server slots used and servers located in different positions.

BladeViewer

A GUI that displays the status of blade servers in a style similar to a physical view and enables intuitive operation.
BladeViewer can also be used for state monitoring and operation of resources.

BMC (Baseboard Management Controller)

A Remote Management Controller used for remote operation of servers.

boot agent

An OS for disk access that is distributed from the manager to managed servers in order to boot them when the network is started during image operations.

CA (Channel Adapter)

An adapter card that is used as the interface for server HBAs and fibre channel switches, and is mounted on storage devices.

CCM (ETERNUS SF AdvancedCopy Manager Copy Control Module)

This is a module that does not require installation of the ETERNUS SF AdvancedCopy Manager agent on the server that is the source of the backup, but rather uses the advanced copy feature of the ETERNUS disk array to make backups.

chassis

A chassis used to house server blades and partitions.
Sometimes referred to as an enclosure.

cloning

Creation of a copy of a system disk.

cloning image

A backup of a system disk, which does not contain server-specific information (system node name, IP address, etc.), made during cloning.
When deploying a cloning image to the system disk of another server, Resource Orchestrator automatically changes server-specific information to that of the target server.

Cloud Edition

The edition which can be used to provide private cloud environments.

data center

A facility that manages client resources (servers, storage, networks, etc.), and provides internet connections and maintenance/operational services.

directory service

A service for updating and viewing the names (and associated attributes) of physical/logical resource names scattered across networks, based on organizational structures and geographical groups using a systematic (tree-shaped structure) management methodology.

disk resource

The unit for resources to connect to an L-Server. An example being a virtual disk provided by LUN or VM management software.

DN (Distinguished Name)

A name defined as a line of an RDN, which contains an entry representing its corresponding object and higher entry.

Domain

A system that is divided into individual systems using partitioning. Also used to indicate a partition.

DR Option

The option that provides the function for remote switchover of servers or storage in order to perform disaster recovery.

Dual-Role Administrators

The administrators with both infrastructure administrator's and tenant administrator's role.

dynamic LUN mirroring

This is a feature whereby a mirror volume is generated at the remote site when a volume is generated at the local site, and copies are maintained by performing REC.

dynamic memory

A function that optimizes physical memory allocation for virtual machines, depending on their execution status on Hyper-V.

end host mode

This is a mode where the uplink port that can communicate with a downlink port is fixed at one, and communication between uplink ports is blocked.

environmental data

Measured data regarding the external environments of servers managed using Resource Orchestrator.
Measured data includes power data collected from power monitoring targets.

ESC (ETERNUS SF Storage Cruiser)

Software that supports stable operation of multi-vendor storage system environments involving SAN, DAS, or NAS. Provides configuration management, relation management, trouble management, and performance management functions to integrate storage related resources such as ETERNUS.

ETERNUS SF AdvancedCopy Manager

This is storage management software that makes highly reliable and rapid backups, restorations and replications using the advanced copy feature of the ETERNUS disk array.

Express

The edition which provides server registration, monitoring, and visualization.

external FTP server

An FTP server used to relay network device files between the ROR manager and network devices that do not possess their own FTP server function.

FC switch (Fibre Channel Switch)

A switch that connects Fibre Channel interfaces and storage devices.

Fibre Channel

A method for connecting computers and peripheral devices and transferring data.

Generally used with servers requiring high-availability, to connect computers and storage systems.

Fibre Channel port

The connector for Fibre Channel interfaces.

When using ETERNUS storage, referred to as an FC-CA port, when using NetApp storage, referred to as an FC port, when using EMC CLARiiON, referred to as an SP port, when using EMC Symmetrix DMX or EMC Symmetrix VMAX, referred to as a DIRECTOR port.

fibre channel switch blade

A fibre channel switch mounted in the chassis of a blade server.

FlexVol

A function that uses aggregates to provide virtual volumes.

Volumes can be created in an instant.

FTRP

The pool for physical disks created by Automatic Storage Layering for ETERNUS.
In Resource Orchestrator, FTRPs are used as virtual storage resources on which Thin Provisioning attributes are configured.

FTV

The virtual volumes created by Automatic Storage Layering for ETERNUS.
In Resource Orchestrator, FTVs are used as disk resources on which Thin Provisioning attributes are configured.

global pool

A resource pool that contains resources that can be used by multiple tenants.
It is located in a different location from the tenants.
By configuring a global pool with the attributes of a tenant, it becomes possible for tenant administrators to use the pool.

global zone

The actual OS that is used for a Solaris container.

A Solaris environment that has been installed on a physical server.

GLS (Global Link Services)

Fujitsu network control software that enables high availability networks through the redundancy of network transmission channels.

GSPB (Giga-LAN SAS and PCI_Box Interface Board)

A board which mounts onboard I/O for two partitions and a PCIe (PCI Express) interface for a PCI box.

GUI (Graphical User Interface)

A user interface that displays pictures and icons (pictographic characters), enabling intuitive and easily understandable operation.

HA (High Availability)

The concept of using redundant resources to prevent suspension of system operations due to single problems.

hardware initiator

A controller which issues SCSI commands to request processes.
In iSCSI configurations, NICs fit into this category.

hardware maintenance mode

In the maintenance mode of PRIMEQUEST servers, a state other than Hot System Maintenance.

HBA (Host Bus Adapter)

An adapter for connecting servers and peripheral devices.
Mainly used to refer to the FC HBAs used for connecting storage devices using Fibre Channel technology.

HBA address rename setup service

The service that starts managed servers that use HBA address rename in the event of failure of the admin server.

HBAAR (HBA address rename)

I/O virtualization technology that enables changing of the actual WWN possessed by an HBA.

host affinity

A definition of the server HBA that is set for the CA port of the storage device and the accessible area of storage.
It is a function for association of the Logical Volume inside the storage which is shown to the host (HBA) that also functions as security internal to the storage device.

Hyper-V

Virtualization software from Microsoft Corporation.

Provides a virtualized infrastructure on PC servers, enabling flexible management of operations.

I/O virtualization option

An optional product that is necessary to provide I/O virtualization.
The WWNN address and MAC address provided is guaranteed by Fujitsu Limited to be unique.
Necessary when using HBA address rename.

IBP (Intelligent Blade Panel)

One of operation modes used for PRIMERGY switch blades.

This operation mode can be used for coordination with ServerView Virtual I/O Manager (VIOM), and relations between server blades and switch blades can be easily and safely configured.

ICT governance

A collection of principles and practices that encourage desirable behavior in the use of ICT (Information and Communication Technology) based on an evaluation of the impacts and risks posed in the adoption and application of ICT within an organization or community.

ILOM (Integrated Lights Out Manager)

The name of the Remote Management Controller for SPARC Enterprise T series servers.

image file

A system image or a cloning image. Also a collective term for them both.

infrastructure administrator

A user who manages the resources comprising a data center.

infra_admin is the role that corresponds to the users who manage resources.

Infrastructure administrators manage all of the resources comprising a resource pool (the global pool and local pools), provide tenant administrators with resources, and review applications by tenant users to use resources.

integrated network device

A network device with integrated firewall or server load balancing functions.

The IPCOM EX IN series fits into this category.

IPMI (Intelligent Platform Management Interface)

IPMI is a set of common interfaces for the hardware that is used to monitor the physical conditions of servers, such as temperature, power voltage, cooling fans, power supply, and chassis.

These functions provide information that enables system management, recovery, and asset management, which in turn leads to reduction of overall TCO.

IQN (iSCSI Qualified Name)

Unique names used for identifying iSCSI initiators and iSCSI targets.

iRMC (integrated Remote Management Controller)

The name of the Remote Management Controller for Fujitsu's PRIMERGY servers.

iSCSI

A standard for using the SCSI protocol over TCP/IP networks.

iSCSI boot

A configuration function that enables the starting and operation of servers via a network.

The OS and applications used to operate servers are stored on iSCSI storage, not the internal disks of servers.

iSCSI storage

Storage that uses an iSCSI connection.

LAG (Link Aggregation Group)

A single logical port created from multiple physical ports using link aggregation.

LAN switch blades

A LAN switch that is mounted in the chassis of a blade server.

LDAP (Lightweight Directory Access Protocol)

A protocol used for accessing Internet standard directories operated using TCP/IP.

LDAP provides functions such as direct searching and viewing of directory services using a web browser.

license

The rights to use specific functions.
Users can use specific functions by purchasing a license for the function and registering it on the manager.

link aggregation

Function used to multiplex multiple ports and use them as a single virtual port.
By using this function, it becomes possible to use a band equal to the total of the bands of all the ports.
Also, if one of the multiplexed ports fails its load can be divided among the other ports, and the overall redundancy of ports improved.

local pool

A resource pool that contains resources that can only be used by a specific tenant.

They are located in tenants.

logical volume

A logical disk that has been divided into multiple partitions.

L-Platform

A resource used for the consolidated operation and management of systems such as multiple-layer systems (Web/AP/DB) comprised of multiple L-Servers, storage, and network devices.

L-Platform template

A template that contains the specifications for servers, storage, network devices, and images that are configured for an L-Platform.

LSB (Logical System Board)

A system board that is allocated a logical number (LSB number) so that it can be recognized from the domain, during domain configuration.

L-Server

A resource defined using the logical specifications (number of CPUs, amount of memory, disk capacity, number of NICs, etc.) of the servers, and storage and network devices connected to those servers.
An abbreviation of Logical Server.

L-Server template

A template that defines the number of CPUs, memory capacity, disk capacity, and other specifications for resources to deploy to an L-Server.

LUN (Logical Unit Number)

A logical unit defined in the channel adapter of a storage unit.

MAC address (Media Access Control address)

A unique identifier that is assigned to Ethernet cards (hardware).

Also referred to as a physical address.

Transmission of data is performed based on this identifier. Described using a combination of the unique identifying numbers managed by/assigned to each maker by the IEEE, and the numbers that each maker assigns to their hardware.

maintenance mode

The state where operations on managed servers are stopped in order to perform maintenance work.
In this state, the backup and restoration of system images and the collection and deployment of cloning images can be performed. However, when using Auto-Recovery it is necessary to change from this mode to active mode. When in maintenance mode it is not possible to switch over to a spare server if a server fails.

managed server

A collective term referring to a server that is managed as a component of a system.

management blade

A server management unit that has a dedicated CPU and LAN interface, and manages blade servers.
Used for gathering server blade data, failure notification, power control, etc.

Management Board

The PRIMEQUEST system management unit.
Used for gathering information such as failure notification, power control, etc. from chassis.

manager

The section (program) of Resource Orchestrator that operates on admin servers.
It manages and controls resources registered with Resource Orchestrator.

master configuration file

This is the original network device configuration file that is backed up from each network device immediately after Resource Orchestrator is set up.
It is used for the following purposes:

- When initializing the settings of network devices

- When checking the differences between the current and original configurations

- For providing the initial settings when creating a new system with the same configuration

In regards to the network device file management function, these files are excluded from the scope of version management (They are not automatically deleted).

master slot

A slot that is recognized as a server when a server that occupies multiple slots is mounted.

member server

A collective term that refers to a server in a Windows network domain that is not a domain controller.

migration

The migration of a VM guest to a different VM host. The following two types of migration are available:

- Cold migration

    Migration of an inactive (powered-off) VM guest.

- Live migration

    Migration of an active (powered-on) VM guest.

multi-slot server

A server that occupies multiple slots.

NAS (Network Attached Storage)

A collective term for storage that is directly connected to a LAN.

network device

The unit used for registration of network devices.
L2 switches, firewalls, and server load balancers fit into this category.

network device configuration file

These files contain definitions of settings regarding communication, such as VLAN information for network devices and interfaces, rules for firewalls and server load balancers, etc.
As the content of these files changes each time settings are configured from the CLI, they are the target of automatic backup by Resource Orchestrator, and a constant number of versions (32 by default) are backed up inside Resource Orchestrator.
Many network devices have two types of network device configuration files: "running config", which holds the current configuration details, and "startup config", which holds the configuration that is valid directly after startup.
In Resource Orchestrator these two types of files are the target of backup and restore operations.

network device environment file

A collective term that refers to the files necessary for operating devices, such as CA certificates, user authentication databases, customized user information, etc. (but excluding the network device configuration file).
As these files are not usually changed after they have been configured, Resource Orchestrator does not back them up each time automatic configuration is performed.

network device file

Regarding the network device file management function, this is a collective term that refers to the files held by network devices that are the target of backup and restore operations.
The two types of network device files are network device configuration files and network device environment files.

network map

A GUI function for graphically displaying the connection relationships of the servers and LAN switches that compose a network.

network view

A window that displays the connection relationships and status of the wiring of a network map.

NFS (Network File System)

A system that enables the sharing of files over a network in Linux environments.

NIC (Network Interface Card)

An interface used to connect a server to a network.

non-global zone

A virtual machine environment that has been prepared in a global zone. Its OS kernel is shared with the global zone. Non-global zones are completely separate from each other.

OS

The OS used by an operating server (a physical OS or VM guest).

overcommit

A function to virtually allocate more resources than the actual amount of resources (CPUs and memory) of a server.
This function is used to enable allocation of more disk resources than are mounted in the target server.

PDU (Power Distribution Unit)

A device for distributing power (such as a power strip).
Resource Orchestrator uses PDUs with current value display functions as Power monitoring devices.

physical LAN segment

A physical LAN that servers are connected to.
Servers are connected to multiple physical LAN segments that are divided based on their purpose (public LANs, backup LANs, etc.).
Physical LAN segments can be divided into multiple network segments using VLAN technology.

physical network adapter

An adapter, such as a LAN, to connect physical servers or VM hosts to a network.

physical OS

An OS that operates directly on a physical server without the use of server virtualization software.

physical server

The same as a "server". Used when it is necessary to distinguish actual servers from virtual servers.

pin-group

This is a group, set with the end host mode, that has at least one uplink port and at least one downlink port.

Pool Master

On Citrix XenServer, it indicates one VM host belonging to a Resource Pool.
It handles setting changes and information collection for the Resource Pool, and also performs operation of the Resource Pool.
For details, refer to the Citrix XenServer manual.

port backup

A function for LAN switches which is also referred to as backup port.

port VLAN

A VLAN in which the ports of a LAN switch are grouped, and each LAN group is treated as a separate LAN.

port zoning

The division of ports of fibre channel switches into zones, and setting of access restrictions between different zones.

power monitoring devices

Devices used by Resource Orchestrator to monitor the amount of power consumed.
PDUs and UPSs with current value display functions fit into this category.

power monitoring targets

Devices from which Resource Orchestrator can collect power consumption data.

pre-configuration

Performing environment configuration for Resource Orchestrator on another separate system.

primary server

The physical server that is switched from when performing server switchover.

primary site

The environment that is usually used by Resource Orchestrator.

private cloud

A private form of cloud computing that provides ICT services exclusively within a corporation or organization.

public LAN

A LAN used for operations by managed servers.
Public LANs are established separately from admin LANs.

rack

A case designed to accommodate equipment such as servers.

rack mount server

A server designed to be mounted in a rack.

RAID (Redundant Arrays of Inexpensive Disks)

Technology that realizes high-speed and highly-reliable storage systems using multiple hard disks.

RAID management tool

Software that monitors disk arrays mounted on PRIMERGY servers.
The RAID management tool differs depending on the model or the OS of PRIMERGY servers.

RDM (Raw Device Mapping)

A function of VMware. This function provides direct access from a VMware virtual machine to a LUN.

RDN (Relative Distinguished Name)

A name used to identify the lower entities of a higher entry.

Each RDN must be unique within the same entry.

Remote Management Controller

A unit used for managing servers.
Used for gathering server data, failure notification, power control, etc.

- For Fujitsu PRIMERGY servers

  iRMC2

- For SPARC Enterprise

  ILOM (T series servers)
  XSCF (M series servers)

- For HP servers

  iLO2 (integrated Lights-Out)

- For Dell/IBM servers

  BMC (Baseboard Management Controller)

Remote Server Management

A PRIMEQUEST feature for managing partitions.

Reserved SB

Indicates the new system board that will be embedded to replace a failed system board if the hardware of a system board embedded in a partition fails and it is necessary to disconnect the failed system board.

resource

General term referring to the logical definition of the hardware (such as servers, storage, and network devices) and software that comprise a system.

resource folder

An arbitrary group of resources.

resource pool

A unit for management of groups of similar resources, such as servers, storage, and network devices.

resource tree

A tree that displays the relationships between the hardware of a server and the OS operating on it using hierarchies.

role

A collection of operations that can be performed.

ROR console

The GUI that enables operation of all functions of Resource Orchestrator.

ruleset

A collection of script lists for performing configuration of network devices, configured as combinations of rules based on the network device, the purpose, and the application.

SAN (Storage Area Network)

A specialized network for connecting servers and storage.

SAN boot

A configuration function that enables the starting and operation of servers via a SAN.

The OS and applications used to operate servers are stored on SAN storage, not the internal disks of servers.

SAN storage

Storage that uses a Fibre Channel connection.

script list

Lists of scripts for the automation of operations such as status and log display, and definition configuration of network devices.
Used to execute multiple scripts in one operation. The scripts listed in a script list are executed in the order that they are listed.
As with individual scripts, they can are created by the infrastructure administrator, and can be customized to meet the needs of tenant administrators.
They are used to configure virtual networks for VLANs on physical networks, in cases where it is necessary to perform auto-configuration of multiple switches at the same time, or to configure the same rules for network devices in redundant configurations.
The script lists contain the scripts used to perform automatic configuration.
There are the following eight types of script lists:

- script lists for setup

- script lists for setup error recovery

- script lists for modification

- script lists for modification error recovery

- script lists for setup (physical server added)

- script lists for setup error recovery (physical server added)

- script lists for deletion (physical server deleted)

- script lists for deletion

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server

A computer (operated with one operating system).

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server blade

A server blade has the functions of a server integrated into one board.
They are mounted in blade servers.

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server management unit

A unit used for managing servers.
A management blade is used for blade servers, and a Remote Management Controller is used for other servers.

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server name

The name allocated to a server.

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server NIC definition

A definition that describes the method of use for each server's NIC.
For the NICs on a server, it defines which physical LAN segment to connect to.

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server virtualization software

Basic software which is operated on a server to enable use of virtual machines. Used to indicate the basic software that operates on a PC server.

ServerView Deployment Manager

Software used to collect and deploy server resources over a network.

ServerView Operations Manager

Software that monitors a server's (PRIMERGY) hardware state, and notifies of errors by way of the network.
ServerView Operations Manager was previously known as ServerView Console.

ServerView RAID

One of the RAID management tools for PRIMERGY.

ServerView Update Manager

This is software that performs jobs such as remote updates of BIOS, firmware, drivers, and hardware monitoring software on servers being managed by ServerView Operations Manager.

ServerView Update Manager Express

Insert the ServerView Suite DVD1 or ServerView Suite Update DVD into the server requiring updating and start it.

This is software that performs batch updates of BIOS, firmware, drivers, and hardware monitoring software.

Single Sign-On

A system among external software which can be used without login operations, after authentication is executed once.

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slave slot

A slot that is not recognized as a server when a server that occupies multiple slots is mounted.

SMB (Server Message Block)

A protocol that enables the sharing of files and printers over a network.

SNMP (Simple Network Management Protocol)

A communications protocol to manage (monitor and control) the equipment that is attached to a network.

software initiator

An initiator processed by software using OS functions.

Solaris container resource pool

The Solaris Containers resource pool used in the global zone and the non-global zone.

Solaris Containers

Solaris server virtualization software.
On Solaris servers, it is possible to configure multiple virtual Solaris servers that are referred to as a Solaris Zone.

Solaris Zone

A software partition that virtually divides a Solaris OS space.

SPARC Enterprise Partition Model

A SPARC Enterprise model which has a partitioning function to enable multiple system configurations, separating a server into multiple areas with operating OS's and applications in each area.

spare server

A server which is used to replace a failed server when server switchover is performed.

storage blade

A blade-style storage device that can be mounted in the chassis of a blade server.

storage management software

Software for managing storage units.

storage resource

Collective term that refers to virtual storage resources and disk resources.

storage unit

Used to indicate the entire secondary storage as one product.

surrogate pair

A method for expressing one character as 32 bits.
In the UTF-16 character code, 0xD800 - 0xDBFF are referred to as "high surrogates", and 0xDC00 - 0xDFFF are referred to as "low surrogates". Surrogate pairs use "high surrogate" + "low surrogate".

switchover state

The state in which switchover has been performed on a managed server, but neither failback nor continuation have been performed.

system administrator

The administrator who manages the entire system. They perform pre-configuration and installation of Resource Orchestrator.

Administrator privileges for the operating system are required. Normally the roles of the infrastructure administrator and system administrator are performed concurrently.

System Board

A board which can mount up to 2 Xeon CPUs and 32 DIMMs.

system disk

The disk on which the programs (such as the OS) and files necessary for the basic functions of servers (including booting) are installed.

system image

A copy of the contents of a system disk made as a backup.
Different from a cloning image as changes are not made to the server-specific information contained on system disks.

tenant

A unit for the division and segregation of management and operation of resources based on organizations or operations.

tenant administrator

A user who manages the resources allocated to a tenant.
tenant_admin is the role for performing management of resources allocated to a tenant.
Tenant administrators manage the available space on resources in the local pools of tenants, and approve or reject applications by tenant users to use resources.

tenant user

A user who uses the resources of a tenant, or creates and manages L-Platforms, or a role with the same purpose.

Thick Provisioning

Allocation of the actual requested capacity when allocating storage resources.

Thin Provisioning

Allocating of only the capacity actually used when allocating storage resources.

tower server

A standalone server with a vertical chassis.

TPP (Thin Provisioning Pool)

One of resources defined using ETERNUS. Thin Provisioning Pools are the resource pools of physical disks created using Thin Provisioning.

TPV (Thin Provisioning Volume)

One of resources defined using ETERNUS. Thin Provisioning Volumes are physical disks created using the Thin Provisioning function.

UNC (Universal Naming Convention)

Notational system for Windows networks (Microsoft networks) that enables specification of shared resources (folders, files, shared printers, shared directories, etc.).

📝 Example
. . . .
\\hostname\dir_name
. . . .

UPS (Uninterruptible Power Supply)

A device containing rechargeable batteries that temporarily provides power to computers and peripheral devices in the event of power failures.
Resource Orchestrator uses UPSs with current value display functions as power monitoring devices.

URL (Uniform Resource Locator)

The notational method used for indicating the location of information on the Internet.

VIOM (ServerView Virtual-IO Manager)

The name of both the I/O virtualization technology used to change the MAC addresses of NICs and the software that performs the virtualization.
Changes to values of WWNs and MAC addresses can be performed by creating a logical definition of a server, called a server profile, and assigning it to a server.

Virtual Edition

The edition that can use the server switchover function.

Virtual I/O

Technology that virtualizes the relationship of servers and I/O devices (mainly storage and network) thereby simplifying the allocation of and modifications to I/O resources to servers, and server maintenance.
For Resource Orchestrator it is used to indicate HBA address rename and ServerView Virtual-IO Manager (VIOM).

virtual server

A virtual server that is operated on a VM host using a virtual machine.

virtual storage resource

This refers to a resource that can dynamically create a disk resource.
An example being RAID groups or logical storage that is managed by server virtualization software (such as VMware datastores).
In Resource Orchestrator, disk resources can be dynamically created from ETERNUS RAID groups, NetApp aggregates, and logical storage managed by server virtualization software.

virtual switch

A function provided by server virtualization software to manage networks of VM guests as virtual LAN switches.
The relationships between the virtual NICs of VM guests and the NICs of the physical servers used to operate VM hosts can be managed using operations similar to those of the wiring of normal LAN switches.

A function provided by server virtualization software in order to manage L-Server (VM) networks as virtual LAN switches.
Management of relationships between virtual L-Server NICs, and physical server NICs operating on VM hosts, can be performed using an operation similar to the connection of a normal LAN switch.

VLAN (Virtual LAN)

A splitting function, which enables the creation of virtual LANs (seen as differing logically by software) by grouping ports on a LAN switch.
Using a Virtual LAN, network configuration can be performed freely without the need for modification of the physical network configuration.

VLAN ID

A number (between 1 and 4,095) used to identify VLANs.
Null values are reserved for priority tagged frames, and 4,096 (FFF in hexadecimal) is reserved for mounting.

VM (Virtual Machine)

A virtual computer that operates on a VM host.

VM guest

A virtual server that operates on a VM host, or an OS that is operated on a virtual machine.

VM Home Position

The VM host that is home to VM guests.

VM host

A server on which server virtualization software is operated, or the server virtualization software itself.

VM maintenance mode

One of the settings of server virtualization software, that enables maintenance of VM hosts.
For example, when using high availability functions (such as VMware HA) of server virtualization software, by setting VM maintenance mode it is possible to prevent the moving of VM guests on VM hosts undergoing maintenance.
For details, refer to the manuals of the server virtualization software being used.

VM management software

Software for managing multiple VM hosts and the VM guests that operate on them.
Provides value adding functions such as movement between the servers of VM guests (migration).

VMware

Virtualization software from VMware Inc.
Provides a virtualized infrastructure on PC servers, enabling flexible management of operations.

VMware DPM (VMware Distributed Power Management)

A function of VMware. This function is used to reduce power consumption by automating power management of servers in VMware DRS clusters.

VMware DRS (VMware Distributed Resource Scheduler)

A function of VMware. This function is used to monitor the load conditions on an entire virtual environment and optimize the load dynamically.

VMware Teaming

A function of VMware. By using VMware Teaming it is possible to perform redundancy by connecting a single virtual switch to multiple physical network adapters.

Web browser

A software application that is used to view Web pages.

WWN (World Wide Name)

A 64-bit address allocated to an HBA.
Refers to a WWNN or a WWPN.

WWNN (World Wide Node Name)

A name that is set as a common value for the Fibre Channel ports of a node. However, the definitions of nodes vary between manufacturers, and may also indicate devices or adapters. Also referred to as a node WWN.

WWPN (World Wide Port Name)

A name that is a unique value and is set for each Fibre Channel port (HBA, CA, fibre channel switch ports, etc.), and is the IEEE global MAC address.

As the Fibre Channel ports of the same WWPN are unique, they are used as identifiers during Fibre Channel port login. Also referred to as a port WWN.

WWPN zoning

The division of ports into zones based on their WWPN, and setting of access restrictions between different zones.

Xen

A type of server virtualization software.

XSB (eXtended System Board)

Unit for domain creation and display, composed of physical components.

XSCF (eXtended System Control Facility)

The name of the Remote Management Controller for SPARC Enterprise M series servers.

zoning

A function that provides security for Fibre Channels by grouping the Fibre Channel ports of a Fibre Channel switch into zones, and only allowing access to ports inside the same zone.